



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Tuesday 20200804

कोरोना वायरस

कोरोना के नए मामलों में भारत ने अमेरिका को छोड़ा पीछे, लगातार दूसरे दिन सबसे ज्यादा केस
(Hindustan: 20200804)

<https://www.livehindustan.com/international/story-coronavirus-india-update-india-leaves-america-behind-in-new-cases-of-covid-19-highest-number-of-cases-on-consecutive-day-3396354.html>

भारत में कोरोना वायरस के मामलों में लगातार बढ़ोतरी होने की वजह से कई देश पीछे छूटते जा रहे हैं। दो दिनों से देश में अमेरिका से भी ज्यादा कोरोना के नए मामले सामने आ रहे हैं। बीते 24 घंटे में भारत में 50 हजार से ज्यादा संक्रमण के मामले दर्ज किए गए, जबकि अमेरिका में यह संख्या 48 हजार के आसपास रही।

कोरोना से जुड़े दुनियाभर के देशों के आंकड़े जुटाने वाली वर्ल्डमीटर वेबसाइट के अनुसार, भारत में पिछले 24 घंटे में 50,629 नए मामले सामने आए। इस दौरान देश में 810 लोगों की और मौत हो गई। मृतकों का कुल आंकड़ा बढ़कर 38,971 पहुंच गया है। अमेरिका में इसी दौरान 48,622 मामले सामने आए और 568 लोगों की जान गई। हालांकि, अमेरिका में कुल मौतों की संख्या भारत के मुकाबले कहीं अधिक है। अमेरिका में अब तक 158,929 लोगों की जान गई है।

एक दिन पहले, ऐसा पहली बार हुआ था जब अमेरिका की तुलना में भारत में ज्यादा मामले सामने आए थे। अमेरिका में तब 49,562 नए मामले सामने आए थे, जबकि 467 लोगों की जान गई थी तो भारत में नए मामलों का यह आंकड़ा 52,783 पहुंच गया था। इसके अलावा, 758 लोगों की मौत हुई थी।

भारत में अब तक 18 लाख के पार कुल मामले

भारत में कोरोना वायरस के कुल मामले सोमवार सुबह 18 लाख के पार पहुंच गए। इस समय देश में 1,855,331 लोग कोरोना से संक्रमित हो चुके हैं। इसके अलावा, 38,971 लोगों की जान गई है। हालांकि, कई एक्सपर्ट्स का दावा है कि चिंता की ज्यादा बात इसलिए नहीं है क्योंकि भारत में ठीक होने वाले मरीजों की दर भी लगातार बढ़ रही है। अब तक 1,230,440 लोग ठीक हो चुके हैं। वहीं, अमेरिका में कुल कोरोना संक्रमितों का आंकड़ा 4,862,174 पहुंच चुका है, जिसमें से 2,446,798 ठीक हुए हैं।

भारत में जांच की संख्या दो करोड़ के पार

वहीं, भारत में कोरोना जांच में भी तेजी आई है। सरकार ने बताया है कि भारत ने कोविड-19 संबंधी दो करोड़ से अधिक जांच की हैं जो एक महत्वपूर्ण उपलब्धि है। भारतीय आयुर्विज्ञान अनुसंधान परिषद (आईसीएमआर) ने कहा कि दो अगस्त तक कुल 2,02,02,858 नमूनों की जांच की गई है। भारत में छह जुलाई को जांच की संख्या एक करोड़ का आंकड़ा पार कर गई थी।

कोविड 19: डब्ल्यूएचओ ने चेताया, हो सकता है कभी न मिले कोरोना का निदान (Amar Ujala: 20200804)

<https://www.amarujala.com/world/who-warns-that-may-never-get-corona-diagnosed-and-appeal-to-government-that-strictly-impliment-health-measures>

कोरोना महामारी ने पूरी दुनिया को अपनी गिरफ्त में ले रखा है। पूरा विश्व इस मर्ज की दवा ईजाद करने में पूरी ताकत से जुटा है। ऐसे में विश्व स्वास्थ्य संगठन (डब्ल्यूएचओ) ने एक डरावनी चेतावनी जारी की है।

स्वास्थ्य संबंधी दुनिया के सबसे बड़े संगठन का कहना है कि वैक्सीन बनने के दृढ़ विश्वास के बीच संभव है कि कोरोना महामारी का प्रभावी समाधान कभी न निकले। साथ ही कहा, हो सकता है कि सामान्य स्थिति बहाल होने में लंबा वक्त लगे।

दुनिया भर में 1.81 करोड़ से ज्यादा लोग इस महामारी से प्रभावित हैं और करीब 6.88 लाख से ज्यादा लोगों की अब तक मौत हो चुकी है। डब्ल्यूएचओ के महानिदेशक टेड्रॉस एधनोम गेब्रेयसस और संगठन

के आपातकालीन प्रमुख माइक रयान ने सभी देशों से स्वास्थ्य उपायों को सख्ती से लागू करने का आह्वान किया है। जिसमें मास्क पहनना, सामाजिक दूरी, हाथों की सफाई और जांच शामिल हैं।

टेड्रॉस ने जेनेवा स्थित मुख्यालय में वर्चुअल प्रेसवार्ता में कहा कि सभी लोगों और सरकारों को संदेश बिलकुल स्पष्ट है कि उक्त सभी उपायों को अपनाएं। उन्होंने कहा कि फेस मास्क को दुनिया भर में एकजुटता का प्रतीक बनना चाहिए।

अभी इससे बचने का कोई उपाय नहीं

रयान ने कहा कि कई वैक्सीन तीसरे चरण के क्लिनिकल ट्रायल में हैं। हम सब उम्मीद लगाए बैठे हैं कि कई वैक्सीन लोगों को संक्रमित होने से बचा लेंगे। हालांकि इस वक्त इससे बचने का कोई उपाय नहीं है और हो सकता है कि कभी न मिले।

रयान ने कोरोना के सबसे ज्यादा प्रसार वाले ब्राजील, भारत सहित तमाम देशों से कहा है कि इसके सामान्य होने में लंबा वक्त और निरंतर प्रतिबद्धता की जरूरत है। उन्होंने कहा कि चीन गई एक जांच टीम अब तक नहीं लौटी है, जिसे कोराना वायरस का उद्गम स्थान बताया जा रहा है।

बच्चों को स्तनपान कराते रहने पर जोर

टेड्रॉस ने सभी माताओं से अपील की है कि वे अपने बच्चों को स्तनपान कराती रहें, बेशक वो कोरोना संक्रमित ही क्यों न हों। स्तनपान का लाभ यह है कि यह संक्रमण के खतरे को काफी हद तक कम कर देता है।

सांसत : कोरोना मरीज मिलने की दर फिर बढ़ी

नई दिल्ली | हिन्दुस्तान ब्यूरो

देश में कोरोना मरीज मिलने की दर तेजी से बढ़ रही है। स्वास्थ्य मंत्रालय की ओर से जारी आंकड़ों को देखें तो तीन दिन पहले जहां 100 टेस्ट करने पर नौ से कम मरीज मिल रहे थे वहीं अब करीब 14 संक्रमित मिल रहे हैं।

देश में महाराष्ट्र, कर्नाटक और तमिलनाडु सबसे ज्यादा सक्रिय मामले हैं। दिल्ली में हालांकि कमी आई है। सोमवार को यहां 805 नए मामले आए।

पूरी दुनिया में अब तक 1.8 करोड़

प्रति 100 टेस्ट केस

31 जुलाई	8.57
01 अगस्त	10.86
02 अगस्त	11.81
03 अगस्त	13.90

(स्रोत :स्वास्थ्य मंत्रालय)

से ज्यादा लोग वायरस से संक्रमित हो चुके हैं। अकेले भारत में 18 लाख से ज्यादा मरीज सामने आए हैं जो कुल मामलों का करीब दस फीसदी है।

➤ रिकॉर्ड मामले पेज 15

राजधानी में एक व्यक्ति से दूसरे को संक्रमण होने की दर राष्ट्रीय औसत से कम

दिल्ली संभली मगर ढील भारी पड़ेगी : विशेषज्ञ

138482

लोग अब तक दिल्ली में कोरोना वायरस से संक्रमित हो चुके हैं

124254

लोग अब तक कोरोना से जंग लड़कर वायरस को मात दे चुके हैं

चेतावनी

नई दिल्ली | एजेसी

हाल ही में सामने आए एक अध्ययन से पता चला है कि कोविड-19 के आर-वैल्यू या रिप्रोडक्टिव वैल्यू में दिल्ली, मुंबई और चेन्नई में गिरावट आई है। इसका मतलब है कि दिल्ली समेत देश के तीन बड़े शहरों में इस महामारी का कहर थमने की राह पर है।

हालांकि विशेषज्ञों ने चेतावनी दी है कि इस स्तर पर आकर अगर लापरवाही बरती गई तो संक्रमण फिर से बढ़ सकता है। स्टैटिस्टिक्स एंड एप्लिकेशंस पत्रिका में प्रकाशित ताजा आर-वैल्यू कुछ इस प्रकार है - दिल्ली में यह 0.66, मुंबई में 0.81 और चेन्नई में 0.86 है, जो कि राष्ट्रीय औसत 1.16 से काफी कम है। फिलहाल देश में सबसे ज्यादा आर-वैल्यू 1.48 आंध्रप्रदेश की है।

भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान, कोलकाता में भौतिकी के प्रोफेसर दिव्येन्दु नंदी का कहना है कि किसी समुदाय में आर-वैल्यू का इतना कम बने रहने का अर्थ है कि महामारी का मौजूदा कहर थम रहा है। उन्होंने बताया कि सामान्य तरीके से समझें तो, अगर आर-वैल्यू एक से कम है तो इसका सीधा मतलब है कि एक संक्रमित व्यक्ति ज्यादा से ज्यादा एक अन्य व्यक्ति को संक्रमित कर रहा है। महामारी के पूर्ण उन्मूलन तक फिलहाल जारी पाबंदियों को लागू रखने पर जोर देते हुए नंदी ने कहा कि हमें अपनी सावधानी नहीं छोड़नी चाहिए।



सोमवार को 805 नए मामले सामने आए

दिल्ली में सोमवार को संक्रमण के 805 नए मामले सामने आए। नए मामले सामने आने के बाद दिल्ली में संक्रमित लोगों की संख्या 138482 पहुंच गई है। इनमें से 124254 मरीज स्वस्थ होकर अपने घर लौट चुके हैं।

सोमवार को स्वास्थ्य होने वाले मरीजों की संख्या 937 रही। जबकि कोरोना संक्रमण से 17 लोगों की मौत हो गई। ऐसे में दिल्ली में अब एक्टिव मरीजों की संख्या 10207 रही है, जिसमें से 5577 मरीजों का उपचार उनके घर पर ही चल रहा है। स्वास्थ्य विभाग के

अनुसार रविवार तक 2973 संक्रमित विभिन्न कोरोना अस्पताल में भर्ती हैं। कोविड केयर सेंटर में 694 मरीज उपचार करवा रहे हैं और कोविड हेल्थ सेंटर में 158 लोग भर्ती हैं, जबकि 5577 संक्रमित लोगों को उनके घरों में उपचार के लिए रखा गया है।

रविवार को आरटीपीसीआर से 3904 लोगों की और 6229 की रैपिड एंटीजन जांच की गई। अभी तक दिल्ली में 1073802 लोगों की जांच की गई है, जिसमें से सोमवार तक 138482 लोग संक्रमित पाए गए हैं।

हरियाणा के अशोक विश्वविद्यालय में प्रोफेसर गौतम मेनन ने कहा कि रोजाना के आंकड़ों के विश्लेषण के अनुसार, दिल्ली, चेन्नई, मुंबई में यह दिख रहा है कि महामारी का कहर थमने लगा है। मेनन का कहना है कि शहरों में

हो रहे सिरों सर्वे से पता चलता है कि दिल्ली और मुंबई के करीब 40 प्रतिशत या उससे ज्यादा निवासी इस वायरस से संक्रमित हो चुके हैं।

उनका कहना है कि दूसरे देशों से हमने जो देखा या सीखा है, उससे पता

क्या होती है आर वैल्यू

आर-वैल्यू का अर्थ है, एक संक्रमित व्यक्ति के संपर्क में आकर औसतन संक्रमित होने वाले लोगों की संख्या। दिल्ली के 0.66 आर-वैल्यू को और बेहतर तरीके से समझाते हुए इस अध्ययन का नेतृत्व करने वाली चेन्नई के गणितीय विज्ञान संस्थान में भौतिकी की प्रोफेसर सीताभ्रा सिन्हा ने बताया कि इसका अर्थ है कि राष्ट्रीय राजधानी में कोरोना वायरस से संक्रमित किसी 100 लोगों का समूह औसतन 60 लोगों को संक्रमित कर सकता है।

बाहर से आए 3579 लोग क्वारंटाइन

स्वास्थ्य विभाग के अनुसार रविवार तक दिल्ली में वंदे भारत के तहत विदेशों से लाए गए 3579 लोग क्वारंटाइन हैं। ये वो लोग हैं जो कोरोना के दौरान दूसरे देशों में फंस गए थे, लेकिन अब सरकार इन लोगों को वापस अपने देश लेकर आ रही है। इसके चलते इन लोगों को 14 दिनों तक क्वारंटाइन में रहना जरूरी है। ऐसे में दिल्ली में 3579 ऐसे लोग क्वारंटाइन में हैं, जो विदेश से आए हैं। इन लोगों को स्वास्थ्य विभाग की ओर से जारी सभी स्वास्थ्य निर्देशों का पालन करना जरूरी है।

चला है कि समुदाय के स्तर पर किसी बीमारी के प्रति रोग प्रतिरोधक क्षमता विकसित होने के लिए आबादी के 20 प्रतिशत हिस्से का संक्रमित होना आवश्यक है। उन्होंने कहा कि ऐसे में यह सच है कि कहर थम रहा है।

कोरोना वैक्सीन

कोरोना कहर के बीच अच्छी खबर: अगले महीने से रूस में बड़े पैमाने पर शुरू हो सकता है कोविड-19 वैक्सीन का उत्पादन (Hindustan: 20200804)

<https://www.livehindustan.com/international/story-coronavirus-vaccine-news-russia-aims-to-produce-millions-of-vaccine-doses-by-2021-amid-covdi-19-outbreak-3396357.html>

कोरोना वायरस कहर के बीच एक अच्छी खबर है। रूस अगले महीने से कोरोना वैक्सीन का बड़े पैमाने पर उत्पादन करने जा रहा है। दुनियाभर में कोरोना वैक्सीन को लेकर ट्रायल जारी है, इस बीच सोमवार को रूस ने कहा कि उसका लक्ष्य अगले महीने से कोरोना वायरस वैक्सीन का बड़े पैमाने पर उत्पादन शुरू करना और अगले साल तक प्रति माह 'कई मिलियन' डोज तैयार करना है।

अधिकारियों ने कहा कि देश में कई कोरोना वैक्सीन के ट्रायल तेजी से आगे बढ़ रहे हैं और रूस की राजधानी मॉस्को में गमालेया संस्थान का ट्रायल एडवांस स्टेज तक पहुंच गया है और यह जल्द ही राज्य रजिस्ट्रेशन की प्रक्रिया पूरी कर लेगा।

एक न्यूज एजेंसी टीएएसएस को दिए एक साक्षात्कार में रूस के उद्योग मंत्री डेनिस मंटुरोव ने कहा कि हम सितंबर से बड़े पैमाने पर वैक्सीन का उत्पादन शुरू करने की उम्मीद लगाए हुए हैं।

उन्होंने कहा, 'हम अगले साल की शुरुआत तक बड़े पैमाने पर कोरोना वैक्सीन तैयार करने में सक्षम होंगे। अगले साल की शुरुआत तक हम इसमें कई मिलियन की वृद्धि करने की स्थिति में होंगे। उन्होंने कहा कि एक डेवलपर सेंटर रूस के तीन लोकेशन पर इसके उत्पादन तकनीक की तैयारी कर रहा है।

इस वैक्सीन को फाइनेंस करने वाली कंपनी रूसी डायरेक्ट इनवेस्टमेंट फंड के प्रमुख किरिल दिमित्रिग ने कहा कि हमें उम्मीद है कि कोविड-19 वैक्सीन का आधिकारिक पंजीकरण दस दिनों के भीतर पूरा हो जाएगा।

उन्होंने कहा, अगर अगले दस दिन में यह होता है तो हम न सिर्फ अमेरिका से आगे हो जाएंगे, बल्कि कई अन्य देशों से भी। यह दुनिया की पहली रजिस्टर्ड कोरोना वायरस वैक्सीन होगी।

'बच्चों के लिए इस वर्ष कोविड-19 वैक्सीन आने की उम्मीद नहीं' (Hindustan: 20200804)

<https://www.livehindustan.com/international/story-covid-19-vaccine-not-expected-for-children-this-year-says-russia-3396414.html>

जल्द ही दुनिया की पहली कोरोना वैक्सीन विकसित करने का दावा कर रहे रूस के संस्थान 'द गामाले साइंटिफिक रिसर्च इंस्टीट्यूट ऑफ एपिडेमियोलॉजी एंड माइक्रोबायोलॉजी' के प्रमुख अलेक्जेंडर गिंसबर्ग ने कहा है कि बच्चों के लिए इस वर्ष कोरोना वायरस (कोविड-19) की वैक्सीन आने की उम्मीद नहीं है।

गिंसबर्ग ने कहा है कि इस समय रूस में सिर्फ वयस्क व्यक्तियों पर इस वैक्सीन का परीक्षण किया जा रहा है। उन्होंने कहा, 'मुझे पूरी उम्मीद है कि यह वैक्सीन बच्चों के लिए भी फायदेमंद होगी, लेकिन रूस के कानून के हिसाब से इस वैक्सीन के वयस्क व्यक्तियों पर परीक्षण की प्रक्रिया का चक्र पूरा हो जाने के बाद ही इसका बच्चों पर परीक्षण किया जा सकता है। इस समय में 18 वर्ष से अधिक उम्र के लोगों पर इस वैक्सीन के तीसरे चरण का परीक्षण किया जा रहा है। '

वहीं द सेचेनोव इंस्टीट्यूट फॉर ट्रांसलेशनल मेडिसिन एंड बायोटेक्नोलॉजी के निदेशक वदिम तारासोव ने बताया कि बच्चों पर इस वैक्सीन का परीक्षण करने से पहले कम उम्र के जानवरों पर इसका परीक्षण किया जायेगा और इसके बाद ही बच्चों पर इस वैक्सीन के परीक्षण का फैसला किया जाएगा। उन्होंने कहा, 'यह कहना जल्दबाजी होगी कि इस वैक्सीन का उपयोग बच्चों पर किया जाएगा। बच्चे कोरोना के जोखिम वाले समूह में नहीं हैं।'

महामारी ने दिया दुनिया की सबसे बड़ी वैक्सीन दौड़ को जन्म (Dainik Jagran: 20200804)

<https://www.jagran.com/news/national-covid-19-pandemic-gave-birth-to-world-largest-vaccine-race-jagran-special-20589509.html>

आइए जानते हैं कि क्यों व्यापक पैमाने पर वैक्सीन बनाने की कोशिश की जा रही है और संक्रामक रोगों और महामारियों के दौरान कितनी संभावित वैक्सीन मैदान में थीं।

नई दिल्ली, जेएनएन। COVID-19 Vaccine दुनिया में कोरोना महामारी के सामने आने के बाद चीन ने वायरस के जेनेटिक कोड को जनवरी में ही उपलब्ध करा दिया था। इसके बाद कई कंपनियों और शैक्षिक संस्थानों में वैक्सीन तैयार करने की होड़ मच गई। यह महामारी दुनिया के लगभग सभी देशों को अपनी चपेट में ले चुकी है।

विश्व स्वास्थ्य संगठन (डब्ल्यूएचओ) के आंकड़ों के अनुसार, 160 से अधिक संभावित वैक्सीन विभिन्न चरणों में हैं। ऐसे में इस महामारी ने इतिहास की सबसे बड़ी वैक्सीन की दौड़ को जन्म दे दिया है। आइए जानते हैं कि क्यों व्यापक पैमाने पर वैक्सीन बनाने की कोशिश की जा रही है और संक्रामक रोगों और महामारियों के दौरान कितनी संभावित वैक्सीन मैदान में थीं।

इसलिए चल रहा कई वैक्सीन पर काम

2003 में सार्स दो दर्जन से अधिक देशों में फैल गया था। इससे करीब 8,000 से अधिक लोग संक्रमित हुए थे, जिनमें से 770 से अधिक की मृत्यु हो गई। वहीं 2009 में स्वाइन फ्लू महामारी 200 से अधिक देशों में फैली और आधिकारिक तौर पर करीब 18,500 लोग मारे गए। हालांकि कई अनुमान इससे कहीं ज्यादा हैं। इस महामारी में, एक दशक पुरानी तकनीक का उपयोग करके पहले वर्ष के भीतर ही वैक्सीन विकसित की गई थी। वहीं कोविड-19 महामारी के दौरान 200 से अधिक देशों ने संक्रमण की सूचना दी है। विशेषज्ञों के अनुसार, वैक्सीन खोजने का शुरुआत में काम करने वालों के लिए बहुत अधिक अवसर हैं, जिससे बड़ी आबादी प्रभावित है और महामारी के आर्थिक परिणाम देशों को प्रभावित कर रहे हैं।

नई तकनीकों पर भी आधारित संभावित वैक्सीन

वैश्विक स्तर पर फिलहाल 26 संभावित कोविड-19 वैक्सीन मानव परीक्षण के विभिन्न चरणों से गुजर रहे हैं। वहीं 139 अभी पशु परीक्षण तक पहुंचे और यह समझने की कोशिश में जुटे हैं कि क्या यह वैक्सीन मनुष्यों को दिये जाने के लिए सुरक्षित है? विशेषज्ञों का मानना है कि यह पहली बार है जब किसी वैक्सीन बनाने को लेकर इतनी रुचि है। उनका मानना है कि डब्ल्यूएचओ द्वारा बताई गई संख्या से करीब तीन गुना अधिक वैक्सीन पर काम चल रहा होगा। कोविड-19 महामारी ने पिछले कुछ दशकों में वैक्सीन की सबसे बड़ी संख्या को आर्किषत किया है। वैक्सीन बनाने की कई कोशिशें पूर्व में आजमाई गईं और परीक्षण की गईं तकनीकों पर ही आधारित नहीं हैं, बल्कि ऐसी तकनीकों पर भी आधारित हैं जो अब से पहले कभी सामने नहीं आई थीं। जिनमें न्यूक्लिक एसिड और ब्लीडिंग एज जैसी तकनीक को भी शामिल किया गया है।

महामारी के दौरान वैक्सीन निर्माताओं की संख्या

महामारी/संक्रामक रोग/रोग	पहला प्रकोप/खोज	निर्माता
कोविड-19 (सार्स-सीओवी-2)	2019 के आखिर में	165
मर्स (मर्स-सीओवी)	2012 की शुरुआत	48
स्वाइन फ्लू (एच1एन1 इंप्लुएंजा ए)	2009 की शुरुआत	30
सार्स (सार्स-सीओवी)	2002 के आखिर में	33
मलेरिया (प्लासमोडियम परजीवी के कारण)	1800 के आखिर में	37
टीबी (माइकोबैक्टेरियम ट्यूबरकुलोसिस बैक्टीरिया)	1800 के आखिर में	29

(स्रोत : मीडिया इनपुट)

बड़ा बाजार भी कारण

देशों को लंबे समय तक लॉकडाउन के तहत रखने की अपनी आर्थिक लागत है, लेकिन पर्याप्त सुरक्षा के बिना इन्हें खोलना भी वित्तीय रूप से प्रभावित कर सकता है। कोविड-19 के लिए कहा जाता है कि

करीब 60 फीसद आबादी को संक्रमण के प्रति प्रतिरक्षा हासिल करनी चाहिए। यदि यह स्वाभाविक होता है, तो समाज और अर्थव्यवस्था पर गंभीर दबाव के साथ बीमारियां और मौतें बहुत अधिक होंगी। विशेषज्ञों के अनुसार, प्रभावित क्षेत्र भी उम्मीदवारों की संख्या में प्रमुख भूमिका निभाते हैं। वायरस के फैलने की संभावना अन्य वायरस की तुलना में अधिक है। इसलिए यह वैक्सीन निर्माता कंपनियों को न सिर्फ बड़ा बाजार बल्कि प्रभावित देशों में प्रवेश के लिए जगह भी देता है।

विकसित देश प्रभावित तो उम्मीद ज्यादा

विशेषज्ञों का मानना है कि यदि विकसित देश किसी महामारी से प्रभावित होते हैं तो इसके समाधान के लिए तकनीकी विकास अक्सर तेजी से होता है। कई पश्चिमी देश इससे प्रभावित हैं। तुलनात्मक रूप से यदि आप टीबी और मलेरिया जैसे रोगों को देखें तो पाते हैं कि विकासशील देशों में इनकी वैक्सीन बनने में काफी लंबा वक्त लगा। कई कंपनियां महामारी में वैक्सीन बनाने को पूंजी जुटाने और नाम बनाने के अवसर के रूप में देख रही हैं।

Covid-19 vaccine tracker, August 4: WHO sees no silver bullet vaccine (The Indian Express: 20200804)

<https://indianexpress.com/article/explained/covid-19-vaccine-updates-august-3-6538216/>

Coronavirus (COVID-19) vaccine tracker update: Pharmaceutical companies leading the race to develop a vaccine have been promising to deliver their product by early next year, if not earlier.

Test tubes sit on a shelf at a The Odin biohacking supply company in Oakland, California, US, on Wednesday, June 24, 2020. As Covid-19 continues its march around the globe, scientists have embarked on an unprecedented campaign to develop a vaccine against the disease. (Bloomberg: Michael Short)

Fast-moving clinical trials, and optimistic remarks from corporations as well as health experts, have been offering hope that a Coronavirus vaccine was, at most, just a few months away. But the World Health Organisation has once again sought to give a reality check.

In a virtual press interaction, WHO director-general Tedros Adhanom Ghebreyesus suggested that the development of a magical vaccine that will protect humanity against the Coronavirus was still not guaranteed. “A number of vaccines are now in phase-III clinical trials, and we all hope to have a number of effective vaccines that can help prevent people from infection. However, there is no silver bullet at the moment, and there might never be,” Tedros said.

“There are concerns that we may not have a vaccine that may work, or its protection could be for just a few months, not more. But until we finish the clinical trials, we will not know,” he said.

Pharmaceutical companies leading the race to develop a vaccine have been promising to deliver their product by early next year, if not earlier. Even Anthony Fauci, a top US expert on infectious diseases and one of the most trusted voices on this pandemic, has said he was “cautiously optimistic” that a vaccine would become a reality by early next year.

But this is not the first time that the WHO has sought to temper the excitement with regard to a Coronavirus vaccine. Several times in the past, it has reminded people about the inherent uncertainties in vaccine development, and even said that the possibility that the hunt for a Coronavirus vaccine remains unsuccessful cannot be ruled out.

On Monday, it again advised countries and people to follow the basic rules to avoid infection – wear masks, identify, isolate and treat infected people, and quarantine their contacts.

coronavirus, coronavirus vaccine, coronavirus vaccine update, coronavirus vaccine latest news, corona vaccine, oxford vaccine, moderna vaccine, India covid vaccine, covaxin, WHO on Corona vaccine, Indian Express There are 165 vaccine candidates listed by WHO, in various stages of development. (Getty image)

Oxford vaccine gets go-ahead for human trials in India

India’s drug regulator has given its approval to a proposal to carry out phase-II and phase-III clinical trials of the Oxford University vaccine in India. The trials are to be carried out by Pune-based Serum Institute of India, which also has a contract to manufacture and supply the Oxford vaccines, when they get ready, in poor and middle income countries.

The Oxford University vaccine, being developed in partnership with pharmaceutical major AstraZeneca, are already in phase-III human trials in some other countries. India’s regulatory rules require a drug or a vaccine to be tested on local population as well, before being allowed to be used in India.

The Serum Institute plans to test the vaccine on 1,600 volunteers at different locations within the country. Between 10 and 15 hospitals are expected to participate in the human trials, including at least four in Pune — government-run BJ Medical College, KEM hospital, Bharati Hospital, and Jehangir Hospital. Besides these, ICMR’s Regional Medical Research Centre in Gorakhpur, and Rajendra Memorial Research Institute of Medical Sciences in Patna are also said to be part of the trials, which are expected to begin later this month.

Wockhardt to supply Coronavirus vaccines to UK

Indian drugmaker Wockhardt has entered into an agreement with UK government to help supply Coronavirus vaccines through the production facility of a subsidiary located in the North Wales.

The company said the agreement with UK government was not specific to any particular vaccine, and would supply the vaccines of whichever developers the UK is able to enter into an agreement with.

“It depends on what the UK government wants. They have worked on a strategy to tie up with multiple manufacturers, and they will decide... what kind of vaccines they want for themselves,” Wockhardt’s founder chairman Dr Habil Khorakiwala said.

The agreement with UK will make use of the 400-million vial capacity of Wockhardt’s subsidiary, CP Pharmaceuticals, in Wales.

HUNT FOR CORONAVIRUS VACCINE: THE STORY SO FAR

More than 160 vaccine candidates in pre-clinical or clinical trials

23 of them in clinical trials

Six in final stages, phase-III of human trials

At least eight candidate vaccines being developed in India. Two of these have entered phase-I human trials.

नवजात शिशुओं में पीलिया की जांच

अब नवजात शिशुओं के नाखून देखकर होगा पीलिया का टेस्ट (Hindustan: 20200804)

<https://www.livehindustan.com/lifestyle/story-jaundice-will-be-tested-after-seeing-the-nails-of-newborns-3392429.html>

नवजात शिशुओं में पीलिया की जांच अब उन्हें छुए बगैर और बिना ब्लड टेस्ट के हो सकेगी। एक ऐसा उपकरण एजेओ-नियो विकसित किया गया है जो शिशु के नाखून पर प्रकाश की किरणें डालकर रक्त में बिलीरुबिन का स्तर महज तीन सेकेंड में बता देता है।

कोलकाता स्थित एसएन बोस नेशनल सेंटर फार बेसिक साइंसेज (एसएनबीएनसीबीएस) के शोधकर्ता प्रोफेसर समीर. के. पाल की टीम ने इसे विकसित किया है। यह स्पेक्ट्रोमेट्री तकनीक पर आधारित है। उपकरण से निकलने वाली एक रोशनी बच्चे के नाखूनों से होकर वापस लौटती है और वह महज तीन सेकेंड में बिलीरुबिन का स्तर बता देती है।

इस प्रोजेक्ट में प्रोफेसर पाल के साथ काम कर रहे एनआरएस मेडिकल कालेज, कोलकाता के शिशु रोग विशेषज्ञ असीम कुमार मल्लिक ने बताया कि इसके नतीजे सटीक हैं। इस उपकरण के नतीजों के आधार पर हम बच्चों में पीलिया की जांच के बाद उनका आगे उपचार कर रहे हैं।

दर्दरहित होगी जांच-

अभी पीलिया की जांच के लिए टोटल सीरम बिलीरुबिन टेस्ट होता है। इसमें रक्त का नमूना लेने के बाद कम से कम चार घंटे रिपोर्ट आने में लगते हैं। नवजात शिशुओं में हर 16 घंटे के बाद वह टेस्ट रिपीट किया जाता है ताकि उपचार के फायदे को देखा जा सके। बार-बार ब्लड टेस्ट करना पड़ता है, लेकिन इस उपकरण से शिशुओं की दर्दरहित जांच हो सकेगी। समय की भी बचत होती है। सबसे बड़ी बात होती है कि शिशु को छूने की जरूरत नहीं पड़ती। इससे संक्रमण का खतरा भी नहीं रहेगा।

उपकरण जल्द बाजार में उपलब्ध होगा-

राष्ट्रीय अनुसंधान एवं विकास निगम (एनआरडीसी) ने हाल में इस तकनीक को विजयवाड़ा की एक कंपनी मैसर्स जयना मेडटेक प्राइवेट लिमिटेड को हस्तांतरित किया है। जल्द यह उपकरण बाजार में होगा।

अधिकतर नवजात को रहता है पीलिया का खतरा-

आजकल 60 फीसदी नवजात शिशुओं को जन्म के तुरंत बाद पीलिया होने का खतरा रहता है। कई बार यह गंभीर रूप धारण कर लेता है जिससे मस्तिष्क को क्षति पहुंचने की आशंका रहती है। समय पूर्व जन्म लेने वालों में पीलिया होने का खतरा 70 फीसदी से भी ज्यादा होता है।

इस तकनीक के बाजार में आने से सबसे बड़ा फायदा क्लिनिकों एवं डिस्पेंसरियों में शिशुओं की पीलिया जांच करने में होगा, जहां पर आमतौर पर रक्त की जांच की सुविधाएं नहीं होतीं। अनावश्यक ब्लड टेस्ट से भी छुटकारा मिलेगा।

मास्क स्वच्छता

मास्क पहनने वाले अपनी स्वच्छता के प्रति ज्यादा सतर्क, शोध में खुलासा (Hindustan: 20200804)

<https://www.livehindustan.com/lifestyle/story-covid-19-research-reveals-masks-wearing-people-are-more-cautious-about-their-hygiene-and-health-3394676.html>

फेस मास्क लगाने से न सिर्फ वायरस से सुरक्षा मिलती है बल्कि मास्क लगाने वाले अपने हाथ साफ करना नहीं भूलते। ब्रिटिश वैज्ञानिकों ने अपने अध्ययन में इस बात का पता लगाया है। यह शोध बीएमजे जर्नल में प्रकाशित हुआ। इस वक्त दुनिया के 160 देशों में मास्क लगाना अनिवार्य है पर अमेरिका और यूरोप के देशों में अब भी मास्क लगाने को लेकर लोग सहमत नहीं हैं।

कुछ लोग कहते हैं कि जिस तरह हेलमेट लगाकर लोग लापरवाही में तेज साइकिल चलाते हैं, वैसे ही मास्क लगाने के बाद लोग वायरस से बचाव के तरीकों के प्रति लापरवाह हो जाते हैं। इसी तर्क की वैज्ञानिकता जांचने के लिए केंब्रिज यूनिवर्सिटी और किंग्स कॉलेज लंदन के शोधकर्ता दल ने अध्ययन किया। वैज्ञानिकों को शोध में इस बात का एक भी आधार नहीं मिला। बल्कि उनका कहना है कि मास्क लगाने वाले लोग अपने हाथ धोने को लेकर ज्यादा सतर्क रहते हैं।

ऐसे किया अध्ययन-

वैज्ञानिकों ने यह पता लगाने के लिए प्रतिभागियों के एक समूह को मास्क पहनकर और दूसरे समूह को बिना मास्क के रखा। उन्हें ऐसे वातावरण में रखा गया जहां पर सर्दी खांसी फैलाने वाले वायरसों की मौजूदगी की संभावना अधिक थी। 22 क्रमबद्ध समीक्षा में शोधकर्ताओं ने पाया कि जो प्रतिभागी मास्क लगा रहे थे, वे अपनी सतर्कता के प्रति ज्यादा गंभीर थे। जबकि मास्क न लगाने वाले प्रतिभागी अपने हाथ भी नियमित रूप से नहीं धो रहे थे।

मनोवैज्ञानिक प्रेरणा-

इस आधार पर वैज्ञानिक डॉक्टर जुलियन तांग का कहना है कि मास्क लगाने से लोगों को मनोवैज्ञानिक तौर पर प्रेरणा मिलती है कि जिससे वे खुद को सुरक्षित करने के लिए ज्यादा गंभीर कदम उठाते हैं। वे कहते हैं कि मास्क पहनने वाले से व्यवहार का यह बदलाव संक्रमण रोकने अहम है।

Diet and Nutrition

Safety of Low-calorie Sweeteners used in Sugar Free confirmed by Regulatory Authorities worldwide (The Indian Express: 20200804)

<https://indianexpress.com/article/lifestyle/sponsored-lifestyle/safety-of-low-calorie-sweeteners-used-in-sugar-free-confirmed-by-regulatory-authorities-worldwide-6533099/>

When used in place of sugar, low calorie sweeteners like Sugar Free can help reduce the net calorie intake and assist in weight management.

Opting for Sugar Free will truly free you from health conditions that risk one's well being

Sugar-free lifestyle has become a popular trend for those looking to lead healthy lives. And with people becoming more calorie-conscious and transitioning to a sugar-free lifestyle, 'Sugar Free' and other low-calorie sweeteners have made their way into the diets of the health-conscious people. By providing the taste of sweetness with minimal calories, low calories sweeteners like Sugar Free have helped countless people achieve their health and fitness goals. While the calorie-cutting benefits and growing demand for low-calorie sweeteners have made them popular, they have also remained controversial in mainstream media over the years of their existence. This is because of the many myths related to their alleged side-effects on human health. Though wide-spread, these myths remain just that —

myths. There's no conclusive evidence to establish that aspartame and sucralose, the key ingredients used in Sugar Free, cause any health problems.

Approved by United States Food and Drug Administration (USFDA)

Aspartame is one of the most exhaustively studied substances in the human food supply, with more than 100 studies supporting its safety.² FDA scientists have reviewed scientific data regarding the safety of aspartame in food and concluded that it is safe for the general population under certain conditions. {USFDA} [G H] All approved low or no-calorie sweeteners have undergone thorough risk assessments by food safety authorities globally before being approved for use in the market. Sucralose has been extensively studied and more than 110 safety studies were reviewed by FDA in approving the use of sucralose as a general purpose sweetener for food. {USFDA} [A]. This shows that products like Sugar Free do not have any side-effects*.

Determined Safe by European Food Safety Authority (EFSA) & World Health Organization (WHO)

Recent studies and extensive research in Europe and the United States have confirmed the safety of the sweeteners used in Sugar Free. Aspartame and its breakdown products are safe for human consumption at current levels of exposure, EFSA concludes in its first full risk assessment of this sweetener. To carry out its risk assessment, EFSA has undertaken a rigorous review of all available scientific research on aspartame and its breakdown products, including both animal and human studies.⁸ {EFSA} [A] Studies reviewed in the risk assessment include the 112 original documents on aspartame that were submitted to support the request for authorization of aspartame in the early 1980s. {EFSA} [B] Based on recommendations from the European Commission's Scientific Committee on Food, and a joint FAO/WHO expert committee on food additives⁴, it has been concluded that aspartame is safe for human intake.

Thus even reputed world health bodies have concluded that there are no side-effects of the low calorie sweeteners.

Low-calorie sweeteners — Role in weight-control

Low-calorie sweeteners are a palatable way to lower the calorie intake and may aid weight loss⁷. Replacing sugar with these sweeteners is a great way of reducing the diet's energy while preserving the palatability of foods and beverages. When they're used in place of sugar, they can help reduce the net energy (calorie) intake and assist in weight management. Also, unlike sugar, they don't raise the blood sugar level. 5, 6

Reducing the sugar burden — Sugar Free is your "Guilt-free" sweetener

Regular tea drinkers need to ditch sugar in favor of Sugar Free. Adding Sugar Free to your diet allows you to satisfy your cravings for tea without the guilt. Also, you need less of it to provide the same amount of sweetness.

For weight watchers and diabetics, it's important to remember that there is no "magic bullet" solution that can make them achieve their health goals. But smart use of low-calorie sweeteners, along with healthy lifestyle practices can certainly help them reach their weight-loss goals. All in all, low-calorie sweeteners should be consumed in moderation for best outcomes, and users should not worry about their ill-effects as they have been thoroughly investigated for safety.

Drug News

Germany, world's one-time pharmacy now has a globalization headache (The Indian Express: 20200804)

<https://indianexpress.com/article/coronavirus/germany-worlds-one-time-pharmacy-now-has-a-globalization-headache-6538335/>

Once known as the pharmacy to the world, Germany now has its work cut out to supply enough medicines to its own citizens.

Europe remains a manufacturing hub for more lucrative prescription medicines, and the most obvious answer might be to build more factories there.

Once known as the pharmacy to the world, Germany now has its work cut out to supply enough medicines to its own citizens.

The globalization-driven shift in drug making from Europe's biggest economy to cheaper locations wasn't too much of an issue until the coronavirus crisis, when India imposed export curbs on products including paracetamol. That over-the-counter painkiller was first clinically used in Germany, which dominated the industry before World War I.

India's move jolted officials in Berlin and Brussels awake to the risk of pharmaceutical shortages. Their challenge, now being prioritized by Germany in its current presidency of the European Union, is how to ensure a supply of so-called generics — cheap drugs from painkillers to antibiotics whose patents have expired — when few companies in the region make them anymore.

"We have delivery problems in Germany and in Europe generally — and they're getting worse," said Mathias Arnold, vice president of the country's ABDA organization of pharmacists, who runs a pharmacy in Halle, in eastern Germany. While India's ban was in

force only a few weeks, “what would we have done if it had lasted for half a year? We’d have had a really serious problem.”

The generics business is one of extreme price pressures: In Europe’s state health-care systems, an antibiotic pill can retail for less than a piece of chewing gum. The majority of active ingredients are therefore produced in cheaper locations such as India and China, including the Hubei province where the Covid-19 virus originated.

Made in Austria

A factory in the small Austrian town of Kundl showcases the problem. Owner Sandoz, a unit of Swiss pharmaceutical giant Novartis AG, says it’s the last remaining manufacturer in the western world to house all production steps of the life-saving antibiotic penicillin, from the synthesis of active ingredients to finished pills, under one roof.

Germany’s health minister, Jens Spahn, wants to lessen the reliance on Asian production that leaves the region’s supply at the mercy of foreign governments, and is using the country’s rotating presidency of the EU to pursue that.

“It’s not about ending globalization completely, nor is it about having everything in Europe, but identifying certain products that we want to have manufactured in Europe,” he told EU lawmakers on July 6. “And talking about how we can make this happen.”

Europe remains a manufacturing hub for more lucrative prescription medicines, and the most obvious answer might be to build more factories there.

Higher Costs

But unless prices for generics increase significantly, that wouldn’t be economically viable. Morris Hosseini, senior partner at the consultancy Roland Berger, calculates a drugmaker would need to charge 46 euro cents (\$0.54) per dose of antibiotics to start production in Germany. Current prices are between 6 and 16 euro cents.

Recognizing the problem, Austria’s government struck a deal with Novartis to invest 150 million euros in the Kundl facility to ensure it can produce enough penicillin for the EU.

“It’s important that Austria and Europe aren’t too dependent on other countries,” Austrian Economy Minister Margarete Schramboeck said at a press conference on July 27.

An EU-level push on the matter may yield little more, however, since leaders on July 21 downsized a planned health program whose goals include shortening drug-supply lines. The “EU4Health” initiative, now totaling 1.7 billion euros, is less than a fifth of the size initially proposed, threatening to undermine a new pharmaceutical strategy for the region.

“I am of course disappointed that the agreement reached by EU government leaders significantly reduced the proposed budget,” European Health Commissioner Stella Kyriakides said. Still, “while many of the foreseen actions will have to be scaled back, it is

also important to keep in perspective” that the 1.7-billion-euro planned health spending is still larger than previous budgets.

Ensuring Stockpiles

Another option for the EU might be seek to fund innovation into processes that could make cheaper local production more feasible.

Rather than rebuilding production capacity, it'd be cheaper and easier to strengthen Europe's supply by penalizing companies that run out of products — an approach that some countries have taken successfully, according Martin Loesch, senior partner specializing at the consultancy McKinsey & Company.

“That's something you could do for all European markets,” he said. “That could be a very simple method to stimulate better availability of generics.”

The Sandoz executive in charge of strategy believes that supply resilience could be a better option than turning back the clock on production. He advocates establishing two sources for crucial components as well as maintaining sufficient stockpiles to bridge bottlenecks.

“You cannot just have your cake and eat it,” Christian Pawlu, head of strategy at Sandoz, said. “If we think over a few years we can turn back the wheel and bring back manufacturing to Europe and North America — I think this isn't ultimately desirable.”

Sleep Disorder

Not getting enough sleep stifles positive emotions (Medical News Today: 20200804)

<https://www.medicalnewstoday.com/articles/not-getting-enough-sleep-stifles-positive-emotions#Impulsive-responses>

A study investigated the effects of going to bed 2 hours later than normal but getting up at the usual time. It found that people not only became more impulsive and prone to mistakes the following day but also experienced a flattening of normally pleasurable feelings.

A lack of sleep may affect a person's emotional well-being.

Missing out on a good night's sleep is a well-known cause of cognitive and emotional problems and making people more accident-prone the next day.

Over longer periods, sleep deprivation is associated with worse mental and physical health.

The National Sleep Foundation in the United States recommend that teenagers get 8–10 hours of sleep a night and that adults under 65 years of age get 7–9 hours.

However, almost one-third of adults who responded to the 2012 National Health Interview Survey reported that they slept less than 6 hours a night.

Most research into the cognitive and emotional effects of sleep deprivation involves volunteers spending several nights in the unfamiliar surroundings of a sleep laboratory.

Psychologists in Norway wanted to investigate the effects under more natural circumstances, while people were at home and sleeping in their own beds.

They discovered that less sleep led the participants to feel worse the next day, but not in the sense of feeling down or depressed. Rather, they experienced fewer positive emotions.

“They felt less joy, enthusiasm, attention, and fulfillment,” says Ingvild Saksvik-Lehouillier, associate professor of psychology at the Norwegian University of Science and Technology, who led the research.

The psychologists say that their findings indicate that staying up late on work or school nights could impair people’s ability to manage stress and negative life events.

“We already know that fewer positive emotions have a major impact on mental health,” says Saksvik-Lehouillier. “We also know that poor sleep is included in virtually all mental health diagnoses.”

After getting less sleep than normal, study participants also behaved more impulsively and were more prone to making mistakes on a standard test.

The research features in the journal *Sleep*.

Normal and disrupted sleep

The study tracked 52 healthy adults aged between 18 and 35 years over a period of 11 days.

To monitor sleep, the researchers asked the volunteers to wear motion sensors on their wrists and fill out a “sleep diary” every morning. The diary included questions about what time the person went to bed and got up, how long it took them to fall asleep, and any periods of wakefulness during the night.

After maintaining their normal sleep habits for 7 days, the participants went to bed 2 hours later than usual for the last 3 nights of the study but got up at their regular time.

“In the imposed sleep deprivation phase, participants crawled under their covers 2 hours later than they normally did and had to get up at their usual time,” says Saksvik-Lehouillier.

On the morning of days 1, 4, and 8 during the habitual sleep phase, and days 9 and 11 during the sleep deprivation phase, they performed a test at the lab at about 9 a.m.

The standardized test, called the Conners' Continuous Performance Test-3, involves pressing the spacebar on a keyboard whenever any letter of the alphabet — apart from the letter "X" — appears at random locations on a screen.

The test is designed to assess an individual's capacity for sustained attention and vigilance. It lasts 14 minutes, during which time, 360 letters pop up at irregular intervals on the screen.

After the attention test, the participants filled out a standard questionnaire called the Positive and Negative Affect Schedule, which assesses emotional state.

This test required them to score themselves on 10 types of positive emotion, such as excited, determined, and alert, as well as 10 types of negative emotion, such as afraid, guilty, and nervous.

Crucially, the participants were not allowed to consume caffeinated drinks from the time they got out of bed until after they had taken the tests.

Impulsive responses

On the mornings after the 3 late nights, the participants' response times decreased on the attention test, which suggests that they were becoming more impulsive.

However, they made progressively more mistakes over the 3 days.

"We didn't find clear differences when it came to the negative emotions, but there were marked differences for the positive ones," says Saksvik-Lehouillier. "Positive feelings scored worse after just 1 night of reduced sleep and dropped even more after 3 nights."

The psychologists write that their findings may be a more accurate reflection of the effects of sleep deprivation on daily life than those that lab-based experiments provide. In the lab, researchers typically restrict participants' sleep to only 4 or 5 hours a night.

The authors conclude:

"These findings highlight that even 1–2 hours less sleep for a few nights is associated with negative consequences. Also, these findings show that even a small lack of sleep may have important implications for everyday function and quality of life, such as social interaction, work efficiency, and traffic safety, especially in the early morning."

The authors note that one possible limitation of their study was that 79% of participants were female, which could have introduced a gender bias to the results.

Previous research suggests that females may be more vulnerable than males to the effects of sleep deprivation and that they may also experience more problems with sleep.

Arthritis

Novel cell may warn of rheumatoid arthritis flare-up (Medical News Today: 20200804)

<https://www.medicalnewstoday.com/articles/novel-cell-may-warn-of-rheumatoid-arthritis-flare-up#Possible-applications>

New research has found a novel cell that can act as a warning sign of a rheumatoid arthritis flare-up.

The identification of a novel cell may provide new methods of predicting rheumatoid arthritis flare-ups.

Scientists have identified a previously unknown cell that is present in significant quantities in a person's blood before they experience a flare-up of rheumatoid arthritis.

The findings appear in the New England Journal of Medicine. They could lead to better predictions of rheumatoid arthritis flare-ups, as well as possible therapies to target the causes of the condition.

What is rheumatoid arthritis?

According to the Centers for Disease Control and Prevention (CDC), rheumatoid arthritis is a type of autoimmune condition. In autoimmune conditions, a person's immune system mistakenly attacks healthy cells. This causes inflammation.

In rheumatoid arthritis, this inflammation typically affects a person's joints — particularly the wrists, hands, and knees. As well as painful swelling, rheumatoid arthritis can result in tissue damage and chronic pain, difficulties with balance, and joint irregularities.

Rheumatoid arthritis is characterized by periods during which the symptoms are minimal and periods during which they are more severe (flare-ups).

Predicting flare-ups is difficult, which can make managing the periods during which rheumatoid arthritis inhibits a person's everyday functioning very challenging.

Regular at-home blood tests

To better understand how and why flare-ups occur, the authors of the recent study looked into participants' blood, instead of their joints.

The team has expertise in analyzing RNA, which is a type of messenger that carries instructions from a person's DNA, to understand its connection with various conditions. Experts can analyze RNA using blood tests.

The researchers used a process called longitudinal RNA sequencing, which monitors changes in a person's RNA over a long period of time. This allowed them to gain valuable information as rheumatoid arthritis flare-ups came and went.

Over 4 years, one person with rheumatoid arthritis underwent weekly finger-prick blood tests that they completed at home and posted to the researchers. This participant also reported their symptoms, allowing the researchers to compare the results of the RNA analysis against the person's flare-ups.

As well as this "index" participant, three other people underwent slightly fewer blood tests during this period, which allowed the researchers to validate their findings from the index participant.

Unknown cell

The researchers noticed that in the days before a flare-up, the signature of an unknown cell was consistently present in the person's blood.

Tracking the signature, they saw that the cell was present in low numbers when the person's symptoms were low, significantly higher just before a flare-up, and virtually absent during the flare-up.

According to study co-author Dr. Dana Orange, an assistant professor of clinical investigation at Rockefeller University in New York City, NY: "We were so surprised to see that the genes expressed right before a flare are normally active in the bone, muscle, and extracellular matrix — strange pathways to find in blood cells. That really piqued our interest."

Possible applications

The researchers named these new cells "PRIME" cells. Although it is not yet clear how they function, the study authors have made some speculations.

The RNA expression profiles of PRIME cells are very similar to those of synovial fibroblasts. These are cells, present in the joints, that contribute to rheumatoid arthritis symptoms. The PRIME cells could, therefore, be a precursor to synovial fibroblasts.

In either case, the discovery of PRIME cells opens the door to future methods of predicting when a flare-up is likely to happen. This could be significant for people who need to manage everyday life with rheumatoid arthritis.

As study co-author Dr. Robert B. Darnell, Robert and Harriet Heilbrunn Professor at Rockefeller University, notes:

"If we can reliably identify these new cells in patients, we may be able to tell them, 'You're about to have a flare,' so they can prepare themselves. This would make flares less disruptive and easier to manage."

Furthermore, if the team can determine whether PRIME cells are only related to flare-ups or a key cause of them, there is hope that scientists could derive new therapies from them that could inhibit flare-ups altogether.

According to Dr. Darnell, “For doctors and patients, intervention before a flare-up is always better than just treating symptoms. If these cells are the antecedents to joint sickness, they become a potential target for new drugs.”

Anxiety

Researchers map anxiety in the brain (Medical News Today: 20200804)

<https://www.medicalnewstoday.com/articles/researchers-map-anxiety-in-the-brain>

Researchers in Italy have identified structural and functional differences in the brains of people with temporary and chronic anxiety. These differences may serve to improve the diagnosis and treatment of anxiety.

Researchers have identified brain activity changes in people who experience anxiety.

The feeling of anxiety is a common one. Most of us have, at one time or another, felt worried about future outcomes, be they test results, financial needs, or work-related goals. But when these feelings are lasting and do not relate to just one specific concern, anxiety can become a long-term condition.

Although it originates in the brain, anxiety can also be overwhelmingly physical, resulting in palpitations, headaches, dizziness, and stomach pains.

The pressures of the modern world may be driving an increase in anxiety disorders, which are currently the most common form of mental ill health in the United States.

As a result, researchers are actively trying to understand what anxiety looks like in the brain so that they can develop better methods of diagnosis and treatment.

In a new study, researchers from the University of Trento in Italy scanned the brains of 42 people with different types of anxiety, finding measurable differences in brain anatomy and activity between people with temporary and chronic forms of the condition.

Their findings, which could inform clinical practice, appear in the Nature journal Scientific Reports.

State vs. trait anxiety

The researchers note that it is possible to conceptualize the different forms of anxiety — event-specific vs. chronic — as state and trait anxiety.

State anxiety describes short-term anxiety, while trait anxiety describes a more persistent form of worry.

The senior author of the study, Dr. Nicola De Pisapia, explains, “[S]tate anxiety is a temporary condition, while trait anxiety is usually a stable feature of a person.” In other words, people can think of trait anxiety as more of a personality trait of an individual.

Although the differences in the experience of these two forms of anxiety are well-described, what they look like in the brain is more of a mystery.

Along with his team, De Pisapia is one of the first to investigate this thoroughly, using MRI, which can provide images of the brain in awake subjects. The researchers performed structural and functional brain scans of 42 people with either state or trait anxiety.

They assessed the type of anxiety that each person had using a psychometric test that asks participants to rate themselves on various statements, such as “I feel calm,” “I am presently worrying,” and “I worry too much over something that really doesn’t matter.”

The default mode network

The researchers identified permanent anatomical differences in the brains of people with trait anxiety, particularly in areas associated with emotion regulation, such as the anterior cingulate cortex.

They say that these anatomical differences could underlie the repetitive negative thoughts that people with trait anxiety experience.

In contrast, they found that people with state anxiety had functional differences in their brain, which are temporary changes in brain activity.

Many of these changes related to the default mode network, a network of brain regions that is active when the mind is at rest and wandering — for instance, when a person is thinking about themselves or others, remembering the past, or planning for the future.

Hyperactivity of the default mode network is associated with rumination and excessive worrying, while research has shown that activities such as meditation quieten down the network.

New diagnostic tools?

Doctors could, one day, use the characterization of anxiety types that the authors present in their paper to diagnose people with anxiety more precisely and select the most appropriate treatment for them.

“[T]hese findings may lead to the creation of new diagnostic tools and treatments aimed at ameliorating the symptoms of anxiety disorders and treat them before they become chronic.”

Dr. Nicola De Pisapia

The researchers highlight the importance of reducing anxiety — using relaxation techniques, for example — as soon as it presents to prevent it from becoming chronic. “Our study makes it clear that it is fundamental to treat individuals with state anxiety so that they do not develop trait anxiety,” says De Pisapia.

The researchers discuss the use of mindfulness, cognitive behavioral therapy (CBT), and magnetic brain stimulation as useful approaches to alleviate anxiety.

There are some important limitations to this study, including the relatively small sample size and the fact that the team only used one psychometric test to distinguish between state and trait anxiety. Future studies could help validate these findings by directly measuring anxiety while brain scans are taking place.

Mental Health

The 'model minority' myth: Its impact on well-being and mental health (Medical News Today: 20200804)

<https://www.medicalnewstoday.com/articles/the-model-minority-myth-its-impact-on-well-being-and-mental-health#Additional-research-and-training-are-crucial>

The “model minority” myth implies that certain ethnic minorities are better than others: better at adjusting to a different culture, more hardworking, more academically gifted. But this false narrative can segregate communities and cause a lot of harm to mental health and other aspects of well-being.

Some ethnic minorities in the United States have had to deal with the damaging pressure of a decades-old narrative: the “model minority” myth.

Recently, public discussions and debates around the many and varied manifestations of racism and discrimination have brought back into focus the impact of a decades-old narrative haunting the United States: the model minority myth.

It suggests that some ethnic minorities are exemplars by others. A model of conduct, socio-cultural integration, and academic proficiency, among others.

On the surface, the model minority set-up may sound positive. However, it has historically led to ethnic segregation, and promotes stereotypes that impact well-being and aspects of mental health. It can also prevent individuals from seeking and receiving any formal support they may need.

Traditionally, this narrative has targeted primarily Asian-American groups, pitting them against other ethnic minorities, and instilling a mindset of self-stigmatization.

To better understand the impact of this myth on well-being and healthcare, Medical News Today reached out to Hee-Young*, an Asian-American who has been working hard to unpick the effects of the model minority myth on her own life, and to Prof. Gordon Nagayama Hall, from the University of Oregon.

Prof. Hall specializes in culture and mental health, cultural adaptations of psychotherapy, and Asian-American psychology.

Political origins of a harmful narrative

The model minority myth is not a new phenomenon. It has its roots in political narratives promoted in the U.S. during the Cold War.

In 1965, President Lyndon B. Johnson proclaimed the Immigration and Nationality Act of 1965, which eased previous restrictions on immigration from Asian countries. It came in symbolic opposition to prior acts of violence against people of Japanese and Chinese ancestry.

The concept of model minority first appeared in a 1966 article from The New York Times, entitled “Success Story, Japanese-American Style,” which alluded to the discrimination and violence suffered by Japanese people at the hands of U.S. authorities before and during World War II. It then proceeded to commend these individuals for having successfully integrated into North American society.

Similar articles followed this, all focused on the successful integration of Asian groups in the U.S. One example is “Success Story of One Minority Group in U.S.,” which appeared in U.S. News and World Report, and seemed to praise the progress of Chinese-Americans.

In speaking to MNT, Hee-Young emphasized that to properly understand the pervasiveness and negative impact of the model minority myth, one must first understand its history:

“I think what’s so crucial to understand this is that, first [we should not remove] that ‘myth’ part of the in that phrase [model minority myth], because it is a myth in such an intentionally

crafted [...] way. I think that's what so many people don't know [...] It was so intentionally created to maintain this idea of white superiority and white supremacy, and to hurt other minority groups and pit them against each other.”

In time, the myth created further social rifts — for instance, by influencing white groups to negatively compare Black Americans with Asian-Americans.

It also rendered those, who internalized positive stereotypes promoted by the myth, to feel inadequate if they experienced mental, emotional, academic, or economic turmoil, putting them off from seeking help for fear of tainting that positive image.

Finally, it has also contributed to the lack of adequate healthcare services and medical research through the lumping together of Asian-American — and, more recently, Native Hawaiian and Pacific Islander — populations without acknowledging cultural, socioeconomic, and other differences between these groups.

A study published in JAMA Network Open in 2019 shows a stringent lack of funding for disaggregated medical research focusing on Asian American, Native Hawaiian, and Pacific Islander populations.

“Population projections indicate we are going to be a very diverse America. But if we don't recognize the diversity with the Asian American, Native Hawaiian, and Pacific Islander populations, we're not going to have a good picture of the health outcomes for these groups,” says study co-author Lan Doan, a doctoral researcher at Oregon State University.

“There are ethnic and cultural groups that need more tailored health interventions. Public health is not one size fits all,” she emphasizes.

The myth's impact on mental health

The long-lived circulation of the model minority myth has also meant that many ethnic minority individuals in the U.S. have internalized the stereotypes it promotes. Therefore, they have to be indomitably hardworking, academically gifted, and ultimately successful in their careers and economic goals.

In speaking to MNT, Prof. Hall told us this myth tends to affect later-generation Asian-Americans a lot more than first-generation migrants.

“The myth is U.S.-based, and those born in the U.S. are more exposed to the myth and more influenced by it than their immigrant parents,” he explained.

Other specialists suggest those who have internalized the model minority myth may feel additional pressure to succeed, which can affect their mental health and well-being.

More specifically, “Research by Brandon Yoo and colleagues indicates that the impact of the myth on Asian-Americans is negative emotions and feeling inferior to others,” Prof. Hall told us.

Hee-Young corroborated this with her personal experience. She told MNT: “I personally had internalized that racism and oppression so intensely, and I saw myself becoming the smaller one and becoming the inferior one, especially when I was interacting with my white friends or other white people, and I [initially] didn’t understand where it came from.”

Silenced, fatigued, grappling with contradictions

The internalized pressure to perform can also lead individuals to experience impostor syndrome, or feelings of shame and guilt as they face a fear of letting others down.

A 2020 study published in *The Counseling Psychologist* indicates this. In a group of 433 Asian-American university students, it found that there was a “positive association between impostor feelings and psychological distress [...] partially mediated by interpersonal shame.”

Prof Hall explained:

“When Asian-Americans’ academic performance or other achievements do not live up to the myth, they may struggle internally. Even if they personally perceive the model minority myth to be a myth, there may still be family or community pressure to live up to it.”

While Hee-Young did not feel impostor syndrome was an adequate term to describe her own experiences, she noted that the systemic racism subtly spreading the model minority myth helped make her feel silenced, occasionally inadequate, and emotionally fatigued.

“It definitely affected me in all these ways, and I’m still unpacking how it’s affected me,” Hee-Young said.

“Because I showed those tendencies [that appeared to be consistent with the stereotypes], because other people said that about me, because I thought, ‘oh yeah, Asian people are quiet and hardworking,’ so maybe that’s just the way I am.”

“I feel so silenced and so exhausted [...],” she continued. “But that’s a tendency I have, and I think so much of it has been shaped by the ways that I understood myself, and the ways that I told myself that I was, because of all these external factors.”

Hee-Young’s well-being has also been affected by another contradiction that she has had to grapple with: living with undocumented status while being a so-called model minority.

This has further contributed to her sense of fear and silencing:

“I think my life was a contradiction. Everything I knew was a contradiction. And after learning about the history of [the model minority myth], it makes sense, because it was a contradiction. [...] I think, especially with my undocumented status — that was a contradiction for me. It seemed like ‘Asian’ and ‘undocumented’ were opposite, and they could never go together, and I didn’t understand how they could.”

Mental healthcare falling short

Internalization of the model minority myth also stops people from seeking mental healthcare even if they need it.

In a chapter featured in the book *Prejudice, Stigma, Privilege, and Oppression*, Prof. Hall and his collaborator, Ellen R. Huang, speak of why Asian-Americans are largely invisible as clients and patients in healthcare.

They explain that while Asian Americans appear to have a lower prevalence of mental illnesses than the general U.S. population, they are also less likely to seek care when they do need it.

Past studies suggest a direct relation between internalized positive stereotypes and a reluctance to access mental healthcare among those affected by the model minority myth.

For instance, a study published in *Cultural Diversity and Ethnic Minority Psychology* in 2014 explained: “The inverse relation between internalized model minority myth and help-seeking attitudes is consistent with the argument that the model minority stereotype acts as a barrier in Asian American help-seeking.”

“One possibility is that a stronger belief in the model minority myth may motivate an individual to highly value emotional self-control to maintain a positive self-image of what it means to be an Asian American in the [U.S.],” its authors hypothesize.

But there are other obstacles at play as well. In *Prejudice, Stigma, Privilege, and Oppression*, Prof. Hall and Huang explain that many mental healthcare professionals are ill-equipped to address the impact of stereotypes, such as those perpetuated by the model minority myth, and that they often downplay the emotional effect of subtle discrimination in the form of microaggressions.

Indeed, mental healthcare professionals may engage in microaggressions themselves, further alienating clients from different ethnic backgrounds.

“Microaggressions perpetuated by clinical psychologists can be the same one perpetuated by the public,” Prof. Hall explained to MNT.

“These include the ‘forever foreigner’ stereotype, assuming that an Asian American is not fully American. This can create a sense of exclusion,” he noted.

“The achievement stereotype can create unrealistic performance expectations for Asian Americans. Psychologists’ stereotypic approaches to Asian Americans (e.g., all Asian Americans are family-oriented, expect structure in therapy) can also interfere with a therapeutic alliance. Rather than making broad assumptions about Asian Americans as a group, a personalized approach, that integrates universal, cultural group, and individual considerations, is most likely to be effective in therapy.”

– Prof. Gordon Nagayama Hall

Additional research and training are crucial

Prof. Hall argued for the importance of proper cultural training for mental healthcare professionals, explaining that this would help specialists better address their clients' individual experiences within the context of their cultural mindsets, among others.

Hee-Young also told MNT that she was able to benefit from counseling sessions, mainly thanks to the fact that her counselor understood her experience as an undocumented person and an Asian American.

“[I went to see the counselor who] was the point person for the undocumented student group. [...] I told him about my [undocumented] status [...] He was also Asian American, so that was also a big [factor],” Hee-Young said.

Aside from promoting encounters with professionals who understand their needs and backgrounds, Prof. Hall argued that Asian Americans should also receive more visibility in medical research.

“One way of eradicating stereotypes of Asian Americans is for the National Institutes of Health (NIH) to devote more resources to research on Asian Americans. Doan and colleagues reported that in the past 25 years, only 0.17% of NIH-supported research has focused on Asian Americans,” he noted.

“Additional research and training health professionals about these stereotypes are the first steps in eradicating them.”

– Prof. Gordon Nagayama Hall