



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Wednesday 20220302

ग्लोबल वार्मिंग

ग्लोबल वार्मिंग के कारण बढ़ रहे खुजली पैदा करने वाले कीट (Hindustan: 20220302)

<https://www.livehindustan.com/lifestyle/story-pests-causing-itching-are-increasing-due-to-global-warming-5935399.html>

एक हालिया अध्ययन में वैज्ञानिकों के एक समूह ने पाया कि गर्म तापमान के कारण खुजली पैदा करने वाले कीट फैल रहे हैं। वैज्ञानिकों के अनुसार, अमेरिका के सबसे जंगली राज्य ब्राउनटेल मोथ में खुजली की समस्या और त्वचा पर दाने की समस्या आम हो गई है।

वैज्ञानिकों ने इसका कारण अत्यधिक वन कटाई को बताया। उन्होंने कहा, लगभग सात वर्षों से राज्य में प्रकोप का विषय रहे कैटरपिलर के बाल भी सांस लेने में तकलीफ का कारण बन सकते हैं।

वैज्ञानिकों ने हाल ही में एन्वायरमेंटल एंटोमोलॉजी पत्रिका में लिखा है कि कीट की वृद्धि और प्रसार तेजी से बढ़ रहे गर्म मौसम से जुड़ा हुआ है। दुर्भाग्य से, जलवायु के रुझान बताते हैं कि आने वाले वर्षों में ये स्थिति और भी बदतर हो सकती है।

मेन यूनिवर्सिटी में एंटोमोलॉजी के प्रोफेसर एमेरिता और अध्ययन के प्रमुख अन्वेषक एलेनोर ग्रोडेन ने कहा कि गर्मी में गिरावट विशेष रूप से पेस्की बग के लिए फायदेमंद होते हैं, क्योंकि इससे उन्हें सर्दियों के लिए हाइबरनेशन से पहले मोटा हो जाते हैं। ग्रोडेन ने कहा, अगर वे उन जाले से बाहर निकलते हैं, तो बड़े व्यक्ति परिपक्व होते हैं, तो वे विपरीत अवधि को झेलने में सक्षम होते हैं।

1904 में पहली बार मेन में आने के बाद के दशकों में पतंगों की आबादी घटी है। लेकिन हाल के वर्षों में मेन में इसका प्रकोप लगातार बढ़ रहा है, और कीट विज्ञानियों ने कहा कि पिछले साल राज्य के इतिहास में ब्राउनटेल कीट के संक्रमण के लिए सबसे खराब वर्ष था।

कीड़े संख्या और क्षेत्र दोनों में लगातार बढ़ रहे हैं। मेन वन सेवा ने कहा कि वे पिछले दो वर्षों में राज्य के उत्तरी और पश्चिमी क्षेत्रों में फैल गए हैं। ग्रोडेन ने कहा कि इन कीटों का प्रबंधन आसान नहीं है, क्योंकि ये तेजी से फैल रहे हैं और पारिस्थितिकी तंत्र के मूल निवासी नहीं हैं।

मोटापा

जरूरत से ज्यादा मोटापा सोचने और याद रखने की शक्ति के लिए बन सकता है खतरा (Hindustan: 20220302)

<https://www.livehindustan.com/lifestyle/story-excessive-obesity-and-fat-can-become-a-threat-to-the-ability-to-think-and-remember-5935403.html>

क्या शरीर में अधिक चर्बी के कारण व्यक्ति में सोचने और याद रखने की शक्ति को खतरा हो सकता है? एक हालिया अध्ययन में तो यही निष्कर्ष निकल कर आया है कि अधिक चर्बी होने की स्थिति में खासकर वयस्कों में ज्ञान संबंधी कार्यों (सोचने और याददाश्त) को खतरा हो सकता है।

जब शोधकर्ताओं ने कार्डियोवैस्कुलर जोखिम कारकों (जैसे मधुमेह या उच्च रक्तचाप) या संवहनी (वैस्कुलर) मस्तिष्क की चोट को लेकर अध्ययन किया तो इसमें शरीर में अधिक चर्बी का दुष्प्रभाव सोचने और याददाश्त जैसे कारकों पर पड़ने की बात सामने आई।

अध्ययन के निष्कर्ष से साफ हुआ कि शरीर में अतिरिक्त वसा का ज्ञान संबंधी कारकों से सीधा संबंध है। यह अध्ययन 'जामा नेटवर्क ओपन' पत्रिका में प्रकाशित हुआ है। अध्ययन में बायोइलेक्ट्रिकल प्रतिबाधा विश्लेषण के माध्यम से 9,166 प्रतिभागियों के कुल शारीरिक वसा का आकलन किया गया।

मस्तिष्क की चोट का आकलन किया गया

प्रतिभागियों में से 6,733 का मैग्नेटिक रिसोनेंस इमेजिंग (एमआरआई) किया गया, जो आंत की चर्बी के आसपास पेट की चर्बी को मापने के लिए किया गया। एमआरआई में मस्तिष्क में कम रक्त प्रवाह से प्रभावित मस्तिष्क के क्षेत्र में संवहनी (वैस्कूलर) मस्तिष्क की चोट का भी आकलन किया।

चर्बी कम करने से संज्ञानात्मक कार्य बचेंगे

शोध पत्र लिखने वाली मैकमास्टर यूनिवर्सिटी के माइकल जी. डीग्रोट स्कूल ऑफ मेडिसिन में मेडिसिन (एचएचएस) की प्रोफेसर और हैमिल्टन हेल्थ साइंसेज में संवहनी चिकित्सा विशेषज्ञ सोनिया आनंद ने कहा, 'हमारे नतीजे बताते हैं कि शरीर में बहुत अधिक चर्बी को कम करने से संज्ञानात्मक कार्य को संरक्षित किया जा सकता है।' वह मैकमास्टर और एचएचएस के जनसंख्या स्वास्थ्य अनुसंधान संस्थान की वरिष्ठ वैज्ञानिक भी हैं।

अधिक वसा का प्रभाव बना रहता है

प्रो. सोनिया आनंद कहा कि 'मधुमेह, उच्च रक्तचाप के अलावा संवहनी (वैस्कूलर) मस्तिष्क की चोट जैसे कार्डियोवैस्कूलर जोखिम कारकों में वृद्धि पर इसके प्रभाव के बाद भी शरीर में अधिक वसा का प्रभाव बना रहता है।

मनोभ्रंश रोकने का सर्वोत्तम तरीका है चर्बी घटाना

न्यूरोलॉजिस्ट, वैज्ञानिक और कैलगरी विश्वविद्यालय में नैदानिक तंत्रिका विज्ञान की एसोसिएट प्रोफेसर और इस शोध पत्र की सह-लेखिका एरिक स्मिथ ने कहा कि 'ज्ञान संबंधी कार्य को संरक्षित करना बुढ़ापे में मनोभ्रंश को रोकने के सर्वोत्तम तरीकों में से एक है। यह अध्ययन बताता है कि अच्छा पोषण और शारीरिक गतिविधि, ठीक-ठाक वजन और शरीर में चर्बी का संतुलित प्रतिशत मनोभ्रंश को रोकती है।'

प्रतिभागियों की औसत आयु 58 वर्ष

स्मिथ इस नए विश्लेषण के लिए उपयोग किए जाने वाले दो प्रतिभागी समूहों के ब्रेन कोर लैब-कैनेडियन एलायंस फॉर हेल्दी हार्ट्स एंड माइंड्स (सीएचएचएम) और प्योर माइंड अध्ययन के प्रमुख हैं। प्योर माइंड अध्ययन- प्रोस्पेक्टिव अर्बन रूरल एपिडेमोलॉजिकल (प्योर) अध्ययन का बड़ा और अंतरराष्ट्रीय उप-अध्ययन है।

56 फीसदी से अधिक महिलाएं शामिल

प्रतिभागियों की उम्र 30 से 75 के बीच थी, जिनकी औसत आयु लगभग 58 वर्ष आंकी गई। इन प्रतिभागियों में 56 प्रतिशत से अधिक महिलाएं थीं जो कनाडा या पोलैंड की रहनेवाली हैं। इनमें बहुसंख्यक श्वेत यूरोपीय मूल के थे, जबकि लगभग 16 प्रतिशत अन्य नस्लीय पृष्ठभूमि से थे। इस अध्ययन में हृदय रोग वाले व्यक्तियों को अलग रखा गया था।

अल्जाइमर रोग

शारीरिक रूप से फिट रहकर कम किया जा सकता है अल्जाइमर रोग का खतरा (Hindustan: 20220302)

<https://www.livehindustan.com/lifestyle/story-the-risk-of-alzheimer-disease-can-be-reduced-by-staying-physically-fit-5935490.html>

अल्जाइमर एक भयानक बीमारी है। दुनियाभर में लाखों लोग इससे ग्रसित हैं। हालिया अध्ययन में दावा किया गया है कि शारीरिक रूप से फिट रहकर अल्जाइमर जैसी घातक बीमारी को कम किया जा सकता है। यह अध्ययन अमेरिकन एकेडमी ऑफ न्यूरोलॉजी की ओर से किया गया है। अध्ययन के निष्कर्ष इसी साल अप्रैल माह में प्रकाशित किए जाएंगे।

शोधकर्ताओं ने बताया कि जो लोग शारीरिक रूप से फिट रहते हैं, उनमें अल्जाइमर रोग विकसित होने की संभावना कम होती है। वाशिंगटन वीए मेडिकल सेंटर के एमडी और अध्ययन के प्रमुख लेखक एडवर्ड जमरिनी ने कहा कि अध्ययन में 649,605 लोगों के स्वास्थ्य डेटा की जांच की गई। अध्ययन में शामिल सभी प्रतिभागियों की औसत उम्र 61 वर्ष थी। उन्होंने बताया कि अध्ययन में पाया गया कि जैसे-जैसे लोगों में फिटनेस में सुधार हुआ, वैसे-वैसे उनमें अल्जाइमर का खतरा कम होता गया।

प्रतिभागियों को पांच समूहों में बांटा

अध्ययन में शामिल प्रतिभागियों को पांच समूहों में बांटा गया। इस दौरान पाया गया कि निम्नतम स्तर वाले समूह ने प्रति 1000 व्यक्ति में 9.5 मामलों की दर से अल्जाइमर विकसित किया। वहीं, सबसे फिट समूह ने प्रति 1000 व्यक्ति में 6.4 मामले की दर से अल्जाइमर विकसित किया।

प्रति सप्ताह ढाई घंटे व्यायाम करें

शोधकर्ताओं ने कहा कि अध्ययन के निष्कर्ष बताते हैं कि प्रति सप्ताह मात्र ढाई घंटे व्यायाम करके लोग फिट रह सकते हैं। शोधकर्ताओं ने कहा कि यह जरूरी नहीं कि लोग इन ढाई घंटों में कड़ा व्यायाम करें। लोग औसत गति से चलकर भी शारीरिक रूप से फिट रह सकते हैं।

कोरोना की दवा

रिसर्च का दावा- नीम की छाल से तैयार की जाएगी कोरोना की दवा, फेफड़ों का संक्रमण रोकने में भी होगी असरदार (Dainik Jagran: 20220302)

<https://www.jagran.com/lifestyle/health-according-to-research-antiviral-medicine-will-be-prepared-from-neem-bark-which-is-also-effective-in-lung-infection-22510543.html>

नीम की पत्तियों के साथ उसका पेस्ट

भारत और अमेरिका के वैज्ञानिकों ने मिलकर रिसर्च की जिसमें ये बताया गया कि नीम की छाल में ऐसे एंटीवायरल गुण होते हैं जो कोरोना वायरस के मूल रूप और नए वेरिएंट को टारगेट कर सकते हैं। जो एक अच्छी खबर है।

सेहत और त्वचा संबंधी परेशानियां दूर करने में नीम बहुत ही असरदार व नेचुरल नुस्खा है। जिसका भारत में काफी समय पहले से इस्तेमाल किया जा रहा है। पेड़ की पत्तियों से लेकर इसकी छाल तक हर एक चीज़ बेहद उपयोगी है। जिसका जिक्र एक हालिया रिसर्च में भी किया गया है। रिसर्च में कहा गया है कि नीम की छाल से कोरोना का इलाज संभव है। यूनिवर्सिटी ऑफ कोलोराडो एनशूटज़ मेडिकल कैंपस और इंडियन इंस्टीट्यूट ऑफ साइंस एजुकेशन एंड रिसर्च कोलकाता के वैज्ञानिकों ने इस बात की पुष्टि की है।

क्या है यह रिसर्च?

वायरोलॉजी जर्नल में पब्लिश इस रिसर्च में कहा गया है कि नीम की छाल में एंटीवायरल गुण मौजूद होते हैं, जो कोरोना वायरस के मूल रूप के साथ ही नए वेरिएंट का भी खात्मा कर सकते हैं। वैसे नीम

की छाल का मलेरिया, स्किन प्रॉब्लम्स के साथ ही पेट के छाले ठीक करने में भी इस्तेमाल किया जाता है।

लंग्स इन्फेक्शन दूर में भी असरदार

एक्सपर्ट्स ने कोरोना पर नीम की छाल के असर को स्टडी किया। इंडिया में यह रिसर्च जानवरों पर की गई। कंप्यूटर मॉडलिंग द्वारा यह पता लगाया गया कि नीम की छाल का रस वायरस के स्पाइक प्रोटीन से चिपकने में कारगर है। इससे कोरोना का खतरनाक वायरस इंसान के शरीर के होस्ट सेल्स को इन्फेक्टेड नहीं कर पाएगा।

यूनिवर्सिटी ऑफ कोलोराडो में वैज्ञानिकों ने नीम की छाल के रस का असर कोरोना प्रभावित इंसान के फेफड़ों पर देखा। जिसमें उन्होंने पाया कि नीम वायरस को बढ़ने से रोकने में तो प्रभावी है ही साथ ही संक्रमण को भी कम करता है।

रिसर्च का मकसद नीम बेस्ड मेडिसिन बनाना

स्टडी में शामिल रिसर्चर मारिया नेगल का कहना है कि इस रिसर्च का मकसद है कोरोना के खिलाफ नीम बेस्ड दवा बनाना। उनका कहना है, हमें पूरी उम्मीद है कि वैज्ञानिकों को हर बार नया कोरोना वेरिएंट आने पर नए ट्रीटमेंट नहीं डेवलप करने होंगे।

नेगल का कहना है कि जैसे गला खराब होने पर लोग पेनिसिलिन की गोली खा लेते हैं, उसी तरह वे चाहती हैं कि कोरोना होने पर भी नीम से बनी हुई दवा का इस्तेमाल हो। इससे गंभीर संक्रमण और अस्पताल में भर्ती होने का खतरा बहुत कम हो जाएगा और कोरोना एक नॉर्मल बीमारी बन जाएगी।

डायबिटीज

डायबिटीज के मरीजों के लिए 'संजीवनी बूटी' हैं पीले रंग की ये 5 चीजें, Blood Sugar रखती हैं कंट्रोल (Navbharat Times: 20220302)

<https://navbharattimes.indiatimes.com/lifestyle/health/according-to-research-these-5-yellow-color-food-easily-control-blood-sugar-level-in-diabetics/articleshow/89937599.cms>

डायबिटीज में आपको ऐसी चीजों का सेवन करना चाहिए, जिनका ग्लाइसेमिक इंडेक्स लेवल कम होता है और शुगर व कार्बोहाइड्रेट की मात्रा कम होती है। ऐसा माना जाता है कि कम ग्लाइसेमिक इंडेक्स वैल्यू वाले खाद्य पदार्थ ब्लड शुगर को बेहतर तरीके से मैनेज कर सकते हैं।

डायबिटीज (Diabetes) एक गंभीर समस्या है जिसका कोई स्थायी इलाज नहीं है। इसका मतलब यह है कि एक बार जो इसकी चपेट में आ गया, वो कभी इससे बाहर नहीं निकल सकता है। इस रोग में मरीज का ब्लड शुगर (Blood Sugar) तेजी से बढ़ने लगता है, जिससे कई गंभीर समस्याओं का खतरा हो सकता है।

डायबिटीज के मरीजों को क्या खाना चाहिए? एक्सपर्ट्स डायबिटीज के मरीजों को हेल्दी डाइट लेने की सलाह देते हैं क्योंकि इसके जरिए ही ब्लड शुगर को कंट्रोल किया जा सकता है। अनाज, पास्ता, फल, दूध, मिठाई और ब्रेड जैसे कार्बोहाइड्रेट जैसे खाद्य पदार्थ ब्लड शुगर बढ़ा सकते हैं। आपको इन चीजों से बचन चाहिए या बहुत कम सेवन करना चाहिए।

डायबिटीज में आपको ऐसी चीजों का सेवन करना चाहिए, जिनका ग्लाइसेमिक इंडेक्स लेवल (low glycemic index foods) कम होता है और शुगर व कार्बोहाइड्रेट की मात्रा कम होती है। ऐसा माना जाता है कि कम ग्लाइसेमिक इंडेक्स वैल्यू वाले खाद्य पदार्थ ब्लड शुगर को बेहतर तरीके से मैनेज कर सकते हैं। इस लिस्ट में बहुत सी चीजें आती हैं, लेकिन हम आपको पीले रंग की कुछ ऐसी चीजों के बारे में बता रहे हैं, जो ब्लड शुगर को कंट्रोल करती हैं और आपकी थकान व कमजोरी को भी दूर कर सकती हैं।

कद्दू और कद्दू के बीज

एक अध्ययन के अनुसार, पीले रंग का कद्दू फाइबर और एंटीऑक्सिडेंट का खजाना है, जो ब्लड शुगर को कंट्रोल रखने में सहायक है। मेक्सिको और ईरान जैसे कई देशों में कद्दू का उपयोग डायबिटीज के

उपचार के रूप में किया जाता है। कद्दू में पॉलीसेकेराइड नामक कार्ब्स की मात्रा अधिक होती है, जो ब्लड शुगर को कंट्रोल करता है।

नींबू

नींबू डायबिटीज के मरीजों के लिए एक बढ़िया विकल्प है। नींबू पानी पीने से ब्लड शुगर लेवल को कम करने में मदद मिलती है। इसमें कार्बोहाइड्रेट और कैलोरी बहुत कम होती है और यह आपको हाइड्रेटेड रखता है। डायबिटीज के मरीजों को डिहाइड्रेशन का खतरा होता है, ऐसे में नींबू पानी उनके लिए सबसे ज्यादा फायदेमंद हो सकता है।

आड़ू

आड़ू एक ऐसा फल है जिसमें वो सभी पोषक तत्व पाए जाते हैं, जो शरीर के बेहतर कामकाज के लिए जरूरी हैं। इसमें नैचुरल शुगर होती है। यह ब्लड शुगर को कंट्रोल रखता है। अगर इसके ग्लाइसेमिक इंडेक्स की बात करें, तो इसकी जीआई रैंकिंग 28 है।

पीली गाजर

गाजर में बीटा कैरोटीन आंखों की रोशनी में मदद करने के लिए जाना जाता है और इसमें विटामिन ए भी अधिक मात्रा में होता है। अप इसे मटर के साथ खा सकते हैं। इसका ग्लाइसेमिक इंडेक्स भी कम होता है जोकि सिर्फ 19 होता है।

खुबानी

खुबानी एक स्वादिष्ट फल है, जो डायबिटीज के मरीजों के लिए बेहतर विकल्प है। इसे किशमिश की तरह सूखाकर भी खाया जाता है। इसमें वो सभी पोषक तत्व पाए जाते हैं, जो डायबिटीज के मरीजों के लिए जरूरी हैं। इसका कम ग्लाइसेमिक इंडेक्स होने के कारण आप इसे आसानी से डाइट में शामिल कर सकते हैं।

COVID-19 vaccine

IISc. researchers help develop math model to predict COVID-19 vaccine efficacy (The Hindu: 20220302)

<https://www.thehindu.com/news/cities/bangalore/iisc-researchers-help-develop-math-model-to-predict-covid-19-vaccine-efficacy/article65143711.ece?homepage=true>

Researchers at the Indian Institute of Science and Queensland Brain Institute in Australia have developed a mathematical model that predicts how antibodies generated by COVID-19 vaccines confer protection against symptomatic infections

The protection offered by vaccination has been touted as a major factor in reducing the damage caused by the third wave of Covid-19 infections. Several vaccines offer a high degree of protection, with some reducing the number of symptomatic infections by over 95% in clinical trials. But what determines the extent of protection.

Researchers at the Indian Institute of Science (IISc.) and Queensland Brain Institute (QBI) in Australia have addressed this question by developing a mathematical model that predicts how antibodies generated by COVID-19 vaccines confer protection against symptomatic infections. The study was published in Nature Computational Science.

The researchers first analysed over 80 different neutralising antibodies reported to be generated after vaccination against the surface spike protein of SARS-CoV-2, the virus that causes COVID-19. These antibodies are typically present in the blood for months and prevent virus entry by blocking the spike protein. The researchers hypothesised that these 80 antibodies constitute a ‘landscape’ or ‘shape space’, and each individual produces a unique ‘profile’ of antibodies which is a small, random subset of this landscape.

The team then developed a mathematical model to simulate infections in a virtual patient population of about 3,500 people with different antibody profiles, and to predict how many of them would be protected from symptomatic infection following vaccination.

“The reason predicting vaccine efficacies has been hard is that the processes involved are complex and operate at many interconnected levels. Vaccines trigger a number of different antibodies, each affecting virus growth in the body differently. This, in turn, affects the dynamics of the infection and the severity of the associated symptoms. Further, different individuals generate different collections of antibodies and in different amounts,” according to Narendra Dixit, Professor in the Department of Chemical Engineering, IISc., and the senior author of the study.

“This diversity of antibody responses was a challenge to comprehend and quantify,” added Pranesh Padmanabhan, Research Fellow at QBI, and the first author of the study.

The model developed by the team was able to predict the level of protection that would be conferred after vaccination based on the antibody 'profile' of the individual, and the predictions were found to closely match efficacies reported in clinical trials for all the major approved vaccines.

The researchers also observed that vaccine efficacy was linked to a readily measurable metric called antibody neutralisation titre. This opens up the possibility of using such models to test future vaccines for their efficacy before elaborate clinical trials are launched.

Prof. Dixit has, however, said that the study is based on current vaccines, which have been designed to work on the original SARS-CoV-2 strain. "Our formalism is yet to be applied to the new variants, including Omicron, where other arms of the immune system and not just antibodies appear to be contributing to vaccine efficacies. Studies are under way to address this," he said.

WHO's pandemic treaty

WHO's pandemic treaty to prevent future global health disasters (The Hindu: 20220302)

<https://www.thehindu.com/news/international/explained-whos-pandemic-treaty-to-prevent-future-global-health-disasters/article65144675.ece?homepage=true>

The COVID-19 pandemic has exposed the deep cracks in global health systems, and members of the World Health Organisation are now working towards being better prepared for any similar disasters in the future.

The story so far: Members of the World Health Organisation (WHO) held the first round of negotiations towards the pandemic treaty on February 24, 2022. The meeting was aimed at agreeing on ways of working and timelines for a "convention, agreement or other international instrument" to prevent further pandemics and to improve the preparedness and response in case of its occurrence.

What is the pandemic treaty?

In December 2021, the World Health Assembly agreed to start a global process to draft the pandemic treaty. The need for an updated set of rules was felt after the COVID-19 pandemic exposed the shortcomings of global health systems. The Health Assembly adopted a decision titled "The World Together" at its second special session since it was founded in 1948.

Under the decision, the health organisation established an intergovernmental negotiating body (INB) to draft and negotiate the contents of the pandemic treaty in compliance with Article 19 of the WHO Constitution.

The pandemic treaty is expected to cover aspects like data sharing and genome sequencing of emerging viruses and equitable distribution of vaccines and drugs and related research throughout the world. Solutions to the COVID-19 pandemic have seen an inequitable distribution of vaccines so far, with poorer countries at the mercy of others to receive preventive medication. Most countries have followed the “me-first” approach which is not an effective way to deal with a global pandemic, WHO Director-General Dr. Tedros Adhanom Ghebreyesus said in a statement.

The European Union (EU) also wants a ban on wildlife markets to be included in the treaty. A widely-accepted theory points that the novel coronavirus may have jumped from animals to humans in a wildlife market of China.

While the EU wants the treaty to be legally binding, the U.S., Brazil and India have expressed reservations about the same. The legal nature of the treaty is yet to be defined.

What is Article 19 of the WHO Constitution?

Article 19 of the WHO Constitution gives the World Health Assembly the authority to adopt conventions or agreements on matters of health. A two-third majority is needed to adopt such conventions or agreements.

The WHO Framework Convention on Tobacco Control was set up under Article 19 and it came into force in 2005.

What has been the impact of the COVID-19 pandemic so far?

More than 437 million COVID-19 cases have been globally reported so far, and more than 5.9 million people have lost their lives. In India, over 34 million cases have been reported so far. Death toll stands at over five lakh.

What is the timeline of the treaty?

The INB held its first meeting on February 24, 2022. The second meeting, where the members are expected to discuss the progress on a working draft, is scheduled to be held by August 1, 2022. A progress report is expected to be delivered to the 76 th World Health Assembly in 2023, and its outcome will be submitted to the 77 th World Health Assembly in 2024 for consideration. Intermittent public hearings are also planned.

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Covid-19 cases

Active Covid-19 cases in India dip to 85,680 (The Indian Express: 20220302)

<https://indianexpress.com/article/india/covid-19-india-numbers-active-cases-deaths-7796957/>

The active cases comprises 0.20 per cent of the total infections, while the national Covid-19 recovery rate has further improved to 98.60 per cent, the ministry said.

A health workers collects swabs for Covid-19 tests in New Delhi. (Express Photo by Praveen Khanna)

India logged 7,554 new coronavirus infections, taking the total tally of Covid-19 cases to 4,29,38,599, while the active cases dipped to 85,680, according to the Union Health Ministry data updated on Wednesday.

The death toll climbed to 5,14,246 with 223 fresh fatalities, the data updated at 8 am stated.

The daily Covid-19 cases have remained less than one lakh for 24 consecutive days.

The active cases comprises 0.20 per cent of the total infections, while the national Covid-19 recovery rate has further improved to 98.60 per cent, the ministry said.

A reduction of 6,792 cases has been recorded in the active COVID-19 caseload in a span of 24 hours.

The daily positivity rate was recorded as 0.96 per cent while the weekly positivity rate was recorded as 1.06 per cent, according to the ministry.

The number of people who have recuperated from the disease surged to 4,23,38,673 and the case fatality rate was 1.20 per cent.

The cumulative doses administered in the country so far under the nationwide COVID-19 vaccination drive has exceeded 177.79 crore.

India's Covid-19 tally had crossed the 20-lakh mark on August 7, 2020, 30 lakh on August 23, 40 lakh on September 5 and 50 lakh on September 16. It went past 60 lakh on September 28, 70 lakh on October 11, crossed 80 lakh on October 29, 90 lakh on November 20 and surpassed the one-crore mark on December 19.

The country crossed the grim milestone of two crore on May 4 and three crore on June 23 last year.

The 223 new fatalities include 168 from Kerala and 10 from Uttar Pradesh.

A total of 5,14,246 deaths have been reported so far in the country including 1,43,706 from Maharashtra, 65,501 from Kerala, 39,957 from Karnataka, 38,006 from Tamil Nadu, 26,126 from Delhi, 23,466 from Uttar Pradesh and 21,178 from West Bengal.

The ministry stressed that more than 70 per cent of the deaths occurred due to comorbidities.

“Our figures are being reconciled with the Indian Council of Medical Research,” the ministry said on its website, adding that state-wise distribution of figures is subject to further verification and reconciliation.

Breast Cancer

Thermal Breast Screening: Much needed now (The Indian Express: 20220302)

<https://indianexpress.com/article/parenting/sponsored-parenting/thermal-breast-screening-much-needed-now/>

"At Rainbow Hospitals, we are pleased to add this service to our portfolio of comprehensive holistic women's health solutions."

Of all cancers affecting Indian women, cancer of the breast is the most common, with an age-adjusted rate as high as 25.8 per 100,000 and mortality 12.4 per 100,000 women. Significantly, most breast cancers among Indian women are being diagnosed among the young, which makes early detection imperative for better clinical management.

So how do we deal with this health crisis crippling a large number of Indian women in the productive age group? Through increasing health awareness and availability of and access to

breast screening programs and treatment facilities, we could make a positive, life-changing impact.

Though mammography and MRI are proven to be the gold standard in detecting abnormal breast lesions while screening breast tissue, there are limitations, especially in our Indian context. Machinery is expensive to install and maintain; facilities need trained personnel. More dauntingly, at-risk women need to make the effort and time to travel to the screening center, and where these are not easily accessible, many just do not make it. Given the low priority attached to women's health in our society, plus women's low perception of self-health itself, these factors compound the problem.

Thermal Screening Centre has recently been launched at Rainbow Hospitals, Chennai and it marks a significant improvement. Integrating Artificial Intelligence with thermal imaging, greatly reduces the chance of flaws in the interpretation of Breast Thermography.

Thermal screening is emerging as a novel tool for breast cancer diagnosis. Here too, interpretation of breast thermography is complex, requires special expertise, and has certain limitations inaccuracy. This is where the Thermal Screening Centre recently launched at Rainbow Hospitals, Chennai marks a significant improvement. By integrating Artificial Intelligence with thermal imaging, it greatly reduces the chance of flaws in the interpretation of Breast Thermography.

This can be safely used for women from the age of 18, involves no pain or radiation in a no-touch method. With its portable design, it can be used in mass screening with high efficiency of costs, time, and accuracy. At Rainbow Hospitals, we are pleased to add this service to our portfolio of comprehensive holistic women's health solutions. We hope and believe that this will significantly alleviate the risks of cancer among women across age groups. Early detection is the key to optimal clinical outcomes in breast cancer; we request that more women be encouraged to screen and stay safe.

Climate conditions

Extreme climatic events may cause anxiety, depression: IPCC report (The Indian Express: 20220302)

<https://indianexpress.com/article/lifestyle/health/extreme-climatic-events-may-cause-anxiety-depression-ipcc-report-7796239/>

The IPCC report has cautioned that not eliminating emissions will cause serious harm to the world, especially South Asia

Extreme climate conditions can cause mental health issues like anxiety, depression, acute traumatic stress and sleep problems ranging from mild to severe which may even require hospitalisation, said the latest IPCC report on climate change.

The Intergovernmental Panel on Climate Change (IPCC) Working Group II's report titled 'Climate Change 2022: Impacts, Adaptation and Vulnerability', released on Monday, warned that a wide range of climatic events and conditions will have detrimental impacts on mental health.

"The pathways through which climatic events affect mental health are varied, complex and interconnected with other non-climatic influences that create vulnerability.

"The climatic exposure may be direct, such as experiencing an extreme weather event or prolonged high temperatures, or indirect, such as mental health consequences of undernutrition or displacement," said the report.

The IPCC report has cautioned that not eliminating emissions will cause serious harm to the world, especially South Asia with increased unbearable heat waves, food and water scarcity and sea level rise.

The report also mentioned non-climatic moderating influences which range from an individual's personality and pre-existing conditions, to social support, to structural inequities.

"Depending on these background and contextual factors, similar climatic events may result in a range of potential mental health outcomes, including anxiety, depression, acute traumatic stress, post-traumatic stress disorder, suicide, substance abuse, and sleep problems, with conditions ranging from being mild in nature to those that require hospitalization," the report, approved by nearly 200 countries said.

Referring to a study, the report said that in Canada, an association was found between mean heat exposure of 28 degree Celsius within four days of exposure and greater hospital admissions for mood and behavioural disorders, including schizophrenia, mood, and neurotic disorders.

“A US study found mental health problems increased by 0.5 per cent when average temperatures exceeded 30 degree C, compared to averages between 25-30 degree C; a 1 degree C warming over five years was associated with a two per cent increase in mental health problems.

“Another study found a 1 degree C rise in monthly average temperatures over several decades was associated with a 2.1 per cent rise in suicide rates in Mexico and a 0.7 per cent rise in suicide rates in the US. A systematic review of published research using a variety of methodologies from 19 countries found increased risk of suicide associated with a 1 degree C rise in ambient temperature,” the report said.

It, however, said that exposure may also be vicarious, with people experiencing decreased mental health associated with observing the impact of climate change on others, or simply with learning about climate change.

Thyroid

How to take your thyroid medicine safely and correctly? Know what doctors have to say (The Times of India: 20220302)

<https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/how-to-take-your-thyroid-medicine-safely-and-correctly-know-what-doctors-have-to-say/articleshow/89923853.cms>

Thyroid is an integral, often overlooked part or gland of the body, which is situated in the front of the neck, just above the collarbone. It helps produce hormones that control your body's metabolism, growth, and development, while also regulating various bodily functions including the heart rate, breathing, body weight, muscle strength and more.

Having said that, several factors can impact your thyroid negatively, leading to various disorders. An iodine deficiency, autoimmune diseases, inflammation caused by a virus or bacteria can all pose problems to your thyroid, in light of which doctors may prescribe oral medications with specific timings. To discuss the same, we at ETimes lifestyle, spoke with established doctors, who provide helpful insights into what thyroid disorders are, when one should resort to thyroid medications and what is the right time to take the same and why.

When should people resort to thyroid medications?

Dr. Shaival Chandalia, a consultant endocrinologist and diabetologist at Jaslok hospital, says, "People should start their thyroid medications once they are diagnosed with hyperthyroidism or hypothyroidism. It should be done in consultation with their physician."

Hypothyroidism or underactive thyroid is a condition in which the thyroid gland fails to produce enough of certain important hormones crucial for the body. On the other hand, hyperthyroidism is a disease which occurs when the thyroid gland produces thyroid hormones in excess. Therefore, it is also known as overactive thyroid.

Hypothyroidism is one of the most common endocrine disorders, says Dr. Chandalia. According to him, the medication that is given for the condition is a thyroxine which is basically a supplementation of the thyroid hormone. "So it is not as much as allopathy as naturopathy because all I'm doing is supplementing your natural thyroid hormone by giving you thyroid hormone from outside in the form of a pill," the doctor explains.

Is there a right time to take the medicines?

Dr. Chandalia recommends taking thyroid medicines in the morning on an empty stomach to procure maximum effectiveness. If it is taken after meals or with food, the medications won't be absorbed properly, disallowing the thyroid levels to reach its optimum levels, he explains.

However, in the case of hypothyroidism, if a person takes a full dose of thyroxine in the morning on an empty stomach, one may get palpitations, which is when it can be split into two doses - early morning on empty stomach and before bedtime, adds the doctor.

Dr. Veenu Gupta, Consultant Internal Medicine, Manipal Hospital, Gurugram says, "Taking a thyroid medication may seem fairly simple, but one needs to know several things to make sure that the drug works as it should." According to her, whether it is hypothyroid or hyperthyroid, taking the medication properly helps one absorb the medications well and limits one's risk of side effects.

Cancer: Signs in eyes that can tell you about a malignant tumor in the body

In case of hypothyroidism, Dr Gupta recommends the levothyroxine drug, which works best when a person takes them at the same time every day. "Missing even a day or two of your thyroid drugs can stir up symptoms. Try to pair or take your medication with something you do every day such as brushing your teeth that can help you establish the habit if you are forgetful try setting an alarm," she says.

She further adds, "In case a person misses taking the medicine, they can take it after 2-2:30 hours of the meal. And if a person is on supplements, there should be a gap of 3 hours atleast."

Factors that can render thyroid medications less effective

According to Dr. Gupta, certain foods, medications, supplements and medical conditions may impair how well your body absorbs the drugs. Poor absorption can make your medicines less effective.

"It is usually recommended that you take levothyroxine in the morning if you follow that advice, take it on an empty stomach, then avoid food and drink including coffee for at least an hour. Some recent research supports taking thyroid medication at bedtime to maximize absorption that is yet to be verified," she says.

Furthermore, the doctor warns against eating high calcium foods within three hours of your thyroid drugs. She also suggests avoiding goitrogenic foods such as brussels sprouts, cabbage, cauliflower, corn, mustard greens, spinach, sweet potatoes and some of the fruits like strawberries, peaches and flax seeds and peanuts and lima beans.

Additionally, while many dietary supplements like calcium, iron, biotin, vitamin C and even iodine can interfere with absorption of the medications, a number of medical conditions like lactose intolerance, celiac disease, pancreatic and liver disease may affect the same, as per the doctor.

Common mistakes people should avoid

A hypothyroidism treatment usually aims at replacing the thyroid hormone, which the thyroid gland is unable to produce. However, there are certain important things to keep in mind so as to ensure high effectiveness.

Dr Chandalia says, while people take thyroid medications in the morning, they often take their calcium, iron and multivitamins along with it, which makes it difficult for the body to absorb the drugs. "The amount of iron in multivitamin, even though it is small, can result in the impairment of the absorption of the thyroid hormone," he said. That said, he strongly suggests against taking iron, calcium or multivitamins along with thyroid hormone medications in the morning, because according to him, will prevent the absorption of the thyroid hormone.

Similarly, Dr Gupta suggests taking the medicine at the same time each day, while avoiding calcium consumption within three hours of taking a medicine. She recommends asking doctors about a dosage change, if the thyroid disease symptoms start to worsen."

How to take your thyroid medications?

Thyroid medicines should mostly be taken in the morning on an empty stomach. It works best when taken at the same time every day. In case a person misses taking the medicine, they can take it after 2-2:30 hours of the meal. And if a person is on supplements, there should be a gap of at least 3 hours.

What mistakes should you avoid?

People who are on thyroid medications should not take it with foods, supplements like iron and calcium or other medications, since it hampers with the absorption of the synthetic thyroid hormone.

Omicron

Omicron: What do we know about the 'stealth variant'? (Medical News Today: 20220302)

<https://www.medicalnewstoday.com/articles/omicron-what-do-we-know-about-the-stealth-variant#Should-we-be-concerned?>

A new version of the Omicron variant of SARS-CoV-2, known as BA.2, has emerged. Although experts are unsure about its effects, they know that it is spreading quickly and has 20 mutations in the area that most COVID-19 vaccines target.

Should we be worried about the 'stealth variant' of Omicron? Image credit: Kate Geraghty/The Sydney Morning Herald via Getty Images.

All data and statistics are based on publicly available data at the time of publication. Some information may be out of date. Visit our coronavirus hub and follow our live updates page for the most recent information on the COVID-19 pandemic.

Scientists first identified the BA.2 subvariant of Omicron in India and South Africa in late December 2021. Since then, it has spread to several countries, including the United States, the United Kingdom, and Israel.

The subvariant virus has also spread rapidly in Denmark, increasing from 20% of all COVID-19 cases in the country in week 52 of 2021 to 45% in the second week of 2022.

Despite its rapid spread in the country, initial analyses show no difference in hospitalizations between the BA.2 subvariant and the original form of Omicron, also known as BA.1.

Studies, however, are still ongoing to understand the infectiousness of BA.2, alongside how effective vaccines are against it.

While BA.2 is not currently a "variant of concern," public health officials in the U.K. have taken enough interest in its spread to designate it as a "variant under investigation."

To understand more about the emerging subvariant, Medical News Today spoke with six experts in public health, immunology, and infectious diseases.

Rapid spread

"Omicron has three main [subvariants] — BA.1, BA.2, and BA.3 — according to the World Health Organization (WHO)," Dr. Donald C. Vinh, associate professor in the Department of Medicine at McGill University, Canada, told MNT.

“Up until now, the overwhelmingly large majority of all Omicron cases has been BA.1. However, in some places, the BA.2 has emerged and has spread faster than BA.1,” he went on to note.

“This sister variant, which is still Omicron, is interesting because it seems to be displacing Omicron in certain parts of the world,” Dr. Amesh A. Adalja, senior scholar at Johns Hopkins Center for Health Security, told MNT. “There is speculation that it may be more transmissible than its sibling.”

How the fast spread of the BA.2 subvariant may affect public health is still under investigation.

“The Omicron SARS-CoV-2 variant has been interesting to scientists because of its comparatively (i) higher number of mutations, which [...] allow it to partially evade people’s immune response; (ii) higher transmissibility and pathogenicity, i.e., its greater ability to infect and cause disease; and (iii) lower virulence, i.e., its lower ability to cause severe disease,” Dr. Richard Reithinger, Ph.D., vice president of global health at RTI International, explained.

“The big question for newly identified variants and subvariants such as Omicron BA.2 is how these above three characteristics vary from the original SARS-CoV-2 virus [variant] or the Omicron variant and why.”

– Dr. Richard Reithinger, Ph.D.

“If some countries are now reporting a surge in the proportion of BA.2 subvariant infections, is it because the additional mutations make it more transmissible or allow it to evade the immune response more easily than the other Omicron subvariants? Will BA.2 result in the same clinical pathology as the Omicron parent variant (B.1.1.529) and subvariants (BA.1 and BA.3)? Also, how do current therapeutic options and vaccines fare against BA.2?”

According to Dr. Reithinger, these are some of the questions that public health experts must take into consideration while keeping this subvariant under observation.

What we know so far

While researchers are still gathering data on how BA.2 may affect the population at large, laboratory studies have already verified many of its molecular properties.

“BA.2 is missing the spike 69-70 mutations, so it does not cause S gene target failure, making it harder to identify on PCR tests,” Dr. Anna Ssentongo, assistant professor of public health at the Penn State College of Medicine, told MNT.

“Because of this, BA.2 was nicknamed the ‘stealth variant,’” she explained.

Dr. Ssentongo added that BA.2 has more than 20 mutations in its spike protein, which is a target of many COVID-19 vaccines because the virus uses it to enter healthy cells. Although

this difference may make BA.2 more resistant to vaccines, further research is necessary to confirm any effects.

“Similar to its parental lineage (Omicron), it is expected to be highly transmissible and result in less severe disease than the Delta or Beta variants, especially if one is fully vaccinated and — even better — boosted,” added Dr. Reithinger. “However, ultimately, this would have to be confirmed by ongoing laboratory and clinical studies, which are expected to provide results in the next couple of weeks.”

Dr. Vinh agreed that before drawing any conclusions on how the subvariant may affect public health, further research is necessary:

“It is important to mention that there are very limited data on clinical differences between BA.2 and BA.1. Specifically, we have no firm data to know if BA.2 is more contagious, results in more severe disease, or can evade immunity better than BA.1. Nonetheless, early data from Denmark and the U.K. suggest that BA.2 may be more contagious than BA.1.”

Should we be concerned?

When MNT asked whether we should be concerned about BA.2, Dr. Pavitra Roychoudhury, research associate at the Vaccine and Infectious Disease Division at the University of Washington, explained: “It remains to be seen how BA.2 will compete against currently circulating viruses [...], and also whether it causes more severe disease. [...] We will continue to monitor frequencies of BA.2 through the use of genomic surveillance.”

Dr. Adalja agreed that much remains to be seen: “We know that this has been a variant that has been present since the early days of Omicron and that it has some similar and some distinct mutations. It is unclear, as of now, whether it is more transmissible. [It] likely has the same characteristics when it comes to vaccine efficacy and severity.”

“It is too early to know what role [BA.2] may play. It’s likely that it will just be part of the Omicron wave and they extend it over time and eventually become the dominant version of Omicron. More study is needed.”

– Dr. Amesh Adalja

However, Dr. Barton F. Haynes, director of the human vaccine institute in the Department of Medicine at the Duke University School of Medicine, said that due to its molecular changes, there might be cause for concern regarding BA.2.

“We are worried that because it is so different than Omicron BA.1, it may escape current vaccines and Omicron BA.1-neutralizing antibodies,” he noted. “To this point, we are working to study the Omicron BA-2 virus to see whether current vaccine-induced neutralizing antibodies neutralize it.”

“Whether BA.2, or any other Omicron subvariant or other SARS-CoV-2 variant, there is irrefutable evidence that existing vaccines are quite effective in protecting people against

infection and highly effective in protecting people from developing severe disease or — worst case scenario — dying upon SARS-CoV-2 infection,” explained Dr. Reithinger.

“Additionally, even if vaccinated, people should consider adhering to nonpharmaceutical interventions, such as face masks, physical distancing, and handwashing, particularly when in crowded and/or high transmission environments,” he advised.

Colorectal cancer

Antibiotic use linked to colon cancer risk in younger people (Medical News Today: 20220302)

<https://www.medicalnewstoday.com/articles/antibiotic-use-linked-to-colon-cancer-risk-in-younger-people#Next-steps>

Colon cancer rates are increasing among younger people in the United States.

Scientists think that antibiotics could upset the balance of the gut microbiome, leading to immune system dysregulation and causing disease.

New research has found a link between oral antibiotic use and the risk of developing colon cancer.

These results could help increase awareness of the potential harms associated with unnecessary antibiotic use.

Colorectal cancer (CRC) is currently the second most common Trusted Source cause of cancer-related deaths in the U.S.

Traditionally, CRC develops in older people. However, the incidence of CRC in younger people — meaning those below 50 years of age — has increased Trusted Source over the last 25 years.

Researchers from the United Kingdom recently conducted a large population-based case-controlled study involving data from almost 40,000 people.

They identified a link between antibiotic use and the risk of developing colon cancer before 50 years of age. This link was stronger in younger people. Their findings appear in the British Journal of Cancer Trusted Source.

Lead author Dr. Leslie Samuel, who is based at the University of Aberdeen, explained the situation to Medical News Today:

“There has been a substantial increase in antibiotics consumption by children across the globe, and it is likely that this is a factor — perhaps a minor factor — in the increased, and unfortunately increasing, incidence of both colon and rectal cancer in young people.”

“Other factors that are also likely related include refined food diets high in sugar, obesity, physical inactivity, and diabetes,” he continued.

Antibiotics and the microbiome

The collective name for the microorganisms living in the gastrointestinal tract is the gut microbiome, and it has a complex relationship with our health.

These microorganisms help digest food, break down toxic chemicals, and release important substances that help regulate the immune system. Scientists believe that many diseases are linked to a shift away from the healthy balance of these organisms.

Antibiotics can upset the balance of the gut microbiome, which can lead to the over- or underproduction of certain chemicals that experts believe to be important for regulating the immune system. This imbalance may even contribute to the development of some cancers.

Previous studies have found a possible link between antibiotic use and CRC. However, these studies have focused mainly on older adults, and the results are not conclusive.

Gathering the data

Recently, a group of researchers set out to identify whether antibiotic use was associated with the development of CRC in younger people. The U.K.-based scientists work at the University of Aberdeen, National Health Service (NHS) Grampian, and Queen’s University Belfast.

The scientists also wanted to understand whether the risk varies among different types of CRC or antibiotics.

Using routine 1999–2011 data from across Scotland, they found 7,903 people with a CRC diagnosis and matched them to 30,418 people who did not have a cancer diagnosis.

The researchers matched the participants based on location, approximate year of birth, sex, and approximate year of database registration.

They removed from the analysis anyone who was taking immunosuppressing drugs or living with a health condition predisposing them to CRC.

The scientists split the data into two groups: early onset and late onset. Those in the first group received their diagnosis before reaching 50 years of age, whereas those in the late onset

group were 50 years old or older at the time of diagnosis. There were 445 people in the early onset group and 7,458 in the late onset group.

As evidence suggests that risk factors may differ between early onset and late onset disease, the team analyzed these groups separately.

The database included prescriptions for oral antibiotics, which the researchers classified by drug class and the presence or absence of anti-anaerobic effects. They did this to provide insight into the types of bacteria that might be associated with CRC.

Anti-anaerobic drugs kill anaerobic bacteria — those that do not need oxygen to live. These bacteria make up the vast majority of the human gut microbiome.

The team also collected other important information, including:

existing health conditions, known as comorbidities

use of other drugs, such as aspirin and nonsteroidal anti-inflammatory drugs (NSAIDs)

smoking status

alcohol use

Where data were available, the scientists carried out separate analyses that included the exact location of the primary tumor and body mass index (BMI).

The results

About 55% of those with CRC in each group were male, and almost 50% of participants had received a prescription for antibiotics. More people who developed CRC had taken antibiotics compared with those who did not develop CRC.

Overall, antibiotic use was associated with an estimated 49% higher risk of colon cancer in those younger than 50 years and an estimated 9% higher risk in those aged 50 years and over.

Dr. Samuel told MNT:

“It was not surprising to find a link between antibiotics and an increased risk of colon cancer in younger people, but it is true that the magnitude of the risk (nearly 50%) was a surprise.”

Antibiotic use was not significantly associated with an increased risk of rectal cancer in either of the age groups. Also, the risk did not seem to be linked to the duration of the antibiotics course.

Anti-anaerobic antibiotics had an association — although not a statistically significant one — with an increased risk of colon cancer in both age groups. Non-anti-anaerobic antibiotics did have a statistically significant difference in CRC risk in the younger age group but not in the older age group.

When the researchers adjusted the data for BMI, medication use, and comorbidities, the association between CRC risk and antibiotics increased. However, the authors note that the sample size in this analysis was not large enough to make any solid claims.

Thoughts on the findings

The researchers state that multiple factors are likely driving the increase in early onset CRC, and it remains uncertain whether this link is causal. These factors include dietary aspects, obesity, stress, and reduced exercise.

Alice Davies, health information manager at Cancer Research UK, says: “Currently, there isn’t enough evidence to say if antibiotics are definitely increasing people’s risk, but this gives us another piece of the puzzle. Continued research is needed — we still need to understand which antibiotics might increase the risk, how this happens, and how much they increase risk by.”

“Antibiotics are an essential tool in combatting common illnesses, so it’s important to follow your doctor’s advice on taking them,” she explains.

The authors of the paper say it is likely that the antibiotic-associated changes in the microbiome disrupt the gut bacteria that usually stimulate the immune system. This disruption may encourage pathogenic, or disease-causing, bacteria to move in. This recolonization, the authors explain, is likely to be carcinogenic.

In other words, it is not the antibiotics that are carcinogenic, but the changes in gut flora that occur following their use.

Dr. Samuel told MNT that he would like to see further research into why particular areas of the colon are more at risk. “Given [...] that the risks appear to be particularly higher for proximal (or right-sided) colon cancers,” he said, “it would be of interest to know the microbiome of the ‘normal’ proximal colon and how it changes in different situations, such as in people on refined high sugar diets, for example.”

“If we were able to know what the significant differences in the microbiome were between ‘normal’ and patients with risk factors, then we can design strategies to reduce the differences, [such as] dietary [changes], probiotics, [and] fecal transplants,” he explained.

Limitations

The authors of the paper acknowledge that the group with early onset CRC was fairly small, especially as it was necessary to split the data between non-anti-anaerobic and anti-anaerobic antibiotics.

They add that it might be irrelevant whether antibiotics are anti-anaerobic because most antibiotics have dual anti-anaerobic and aerobic activity.

Also, the dataset did not contain information on the family history or dietary habits of the participants, and there was BMI information for only about one-third of the sample. Both of these factors may have a significant influence on CRC risk.

Next steps

MNT asked Dr. Samuel whether he thought that the findings might inform policy changes, such as screening programs:

“Our results remind our policymakers of the steady increase in the incidence of colon and rectal cancer in younger people, as well as the risk factors that can be changed through changes in social policies.”

“These include promoting physical activity, reducing obesity, reducing the focus on energy dense, high sugar diets, reducing average alcohol consumption, and promoting professional and public awareness of the risks, as well as benefits from medicines such as antibiotics.”